

THE NATIONAL MAGAZINE FOR FASTENER DISTRIBUTORS

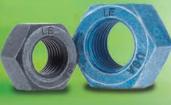


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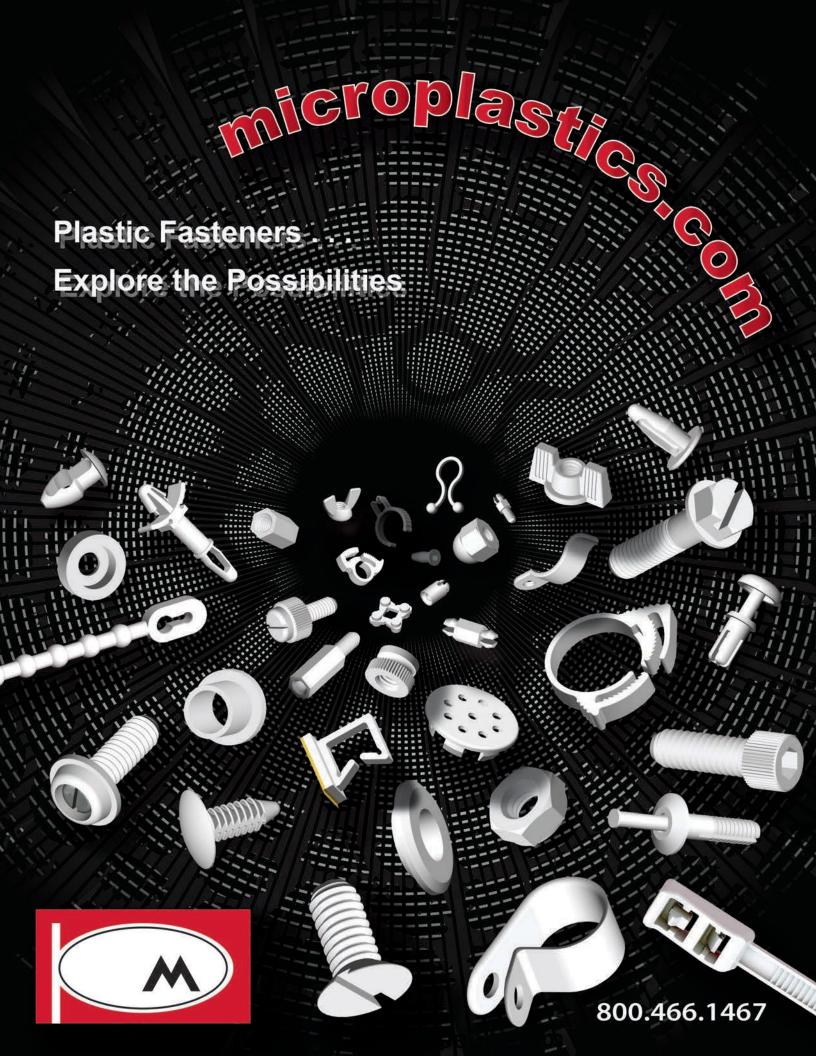
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THE NATIONAL MAGAZINE FOR FASTENER DISTRIBUTORS







Tracey Lumia
sales & marketing director
tracey@linkmagazine.com

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Innovative Components Inc has recently hired 3 new employees in an effort to facilitate growth and continue to serve our customers at the highest level. Jennifer Jindrich & Rose Severino join the customer service team, while Kelly Cannon is working on the marketing team. The three new hires join a team at Innovative Components that has seen continued growth recently. Customer service manager, Christine Gray, says, "The addition of 3 administrative employees plays a pertinent role in our long-term strategy for growth. We are building the infrastructure to better serve both our internal and external customers by decreasing overall order processing times and providing expeditious communication throughout. We are excited to welcome Jennifer, Kelly and Rose to the Innovative team."

Innovative Components, Inc. is an ISO 9001:2008 Certified Manufacturer of Plastic Knobs and Handles, Wire Rope Lanyard Assemblies, Positive Locking Pins, and Quick Release Hardware. The 24 year old company operates plants in Schaumburg, IL USA and Cartago, Costa Rica. You'll receive high-production parts at import prices with domestic lead times.

For more information, contact Innovative Components Inc. by Tel: 847-885-9050, Fax: 847-885-9005, Email: Sales@knobsource.com or visit them online at www.knobsource.com.

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SEE OUR AD ON PAGE 105

Wvandotte Industries Inc. has named Jackie Ventura of Ventura Industrial Products LLC as rep in Ohio, Pennsylvania, New York and Kentucky, sales manager Dan Duffield announced.



Ventura has 30 years experience in the fastener industry including as an independent sales rep and manufacturers rep plus with IfastGroupe.

Ventura Industrial is based at 9520 S. Skyland Dr. Macedonia, OH 44056. Tel: 330-467-0102 Email: JV@JackieVentura.com or JackieVentura.com.

Founded in 1959, Wyandotte Industries manufactures special nuts, nylon insert locknuts, screw machine and CNC engineered components. Wyandotte has 40 screw machines, five CNC lathes and two vertical milling centers. Wyandotte is a third generation, family-owned business.

For more information contact Wyandotte Industries by Tel: 734-283-1870, Email: info@Wyandotte.com or visit them online at www.Wyandotte.com.

National Threaded Fasteners (NTF), the leading distributor of flange fastening products, is proud to announce our 20th anniversary in November.

NTF carries a full line of Flange Fastening Products as well as Plow Bolts, Shaker Screen Bolts and Hardened Washers. Our most recent addition will be Fine Thread Grade 5 Serrated Flange product due in early November.

This Year NTF launched their online store for distributors only. Once an account is set up for a verified distributor, it can be used to check stock. get quotes, and place orders. All from one easy to use platform. To sign up for the online store, and for all of your flange fastening needs, log on to FlangeScrews.com

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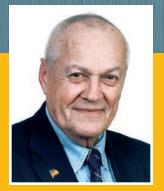
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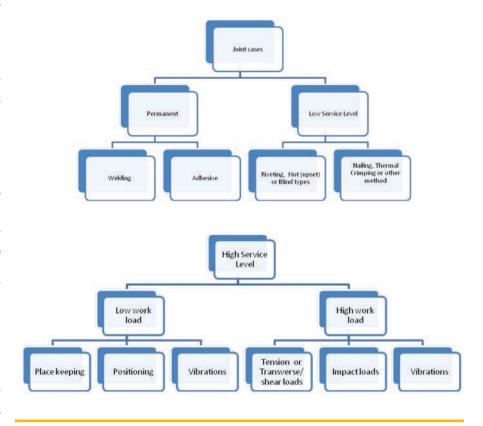


Bengt Blendulf

Bengt Blendulf was educated in Sweden and moved to the US in 1974 to start a subsidiary for a Swedish fastener manufacturer. After working as a technical consultant on the faculty of the College of Engineering and Science at Clemson University, he established EduPro US in 1997 to teach highly rated courses in Fastening Technology in the US, Canada, Mexico, Europe and Asia. Being one of the founders, Bengt served as the chairman of ASTM F16.96 Bolting Technology from 1996 to 2006. In 2006 he received the Fred F. Weingruber award from ASTM for "his efforts to promote and develop standards for the fastener industry." In 2013 he also received IFI's Soaring Eagle Award for "significant contributions to the technological advancement of the fastener industry". Bengt is the author of an extensive lecture book, well over 110 articles and "Mechanical Fastening and Joining", a book published in 2013 by the Industrial Fasteners Institute. He can be contacted through www.edupro.us or by email bblendulf@yahoo.com.

HOLDING OUR WORLD TOGETHER

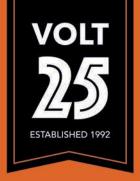
The success existence here on Earth can be helped by many different things, but from a strictly technical point of view I would definitely put mechanical fasteners high up on the list of requirements. To build a house, an automobile, an airplane or practically anything else designed by human beings, requires one common and very necessary action, the joining of two or more pieces to make it work. How we do it will depend on many variables like intended functions, materials, structural demands, service conditions, expectancy, assembly methods, cost and many other influences. In figure 1, I have



made an attempt to simply classify some of the most common types of joint cases and what basic options a designer or other fastener specialist might consider in choosing a suitable fastening method.

Permanent Joining

The initial decision must be to determine if the joint or joints need to be taken apart at some interval for service or repair. If that is not in the planning, or an unlikely event, we can make joining permanent by welding the parts together or to use bonding with adhesives. There are benefits and drawbacks with both methods. Some metallic materials can be difficult to weld, particularly if the parts are made of different metals. Since most welding involve higher temperatures we must also pay attention to possible shape changes (warping, crimping, etc.) and unwanted metallurgical events like local tempering and grain changes.



FASTENING VOLT'S FUTURE

For the last quarter of a century, Volt Industrial Plastics has grown into a state-of-the-art company that is known for efficiency and responsiveness. Joe Volltrauer, VIP founder, has infused the company with his strong work ethic and passion for mold making and built a team that is dedicated to quality and service in producing the finest plastic fasteners in the world.

FUN FACTS

Volt's doors open on June 1, 1992, which was Joe's 54th birthday. He says the company was a gift to himself.



Volt has 65 total employees, nearly 20 of them have been with the company for more than 10 years. Volt houses well over 100 million parts in stock.



Volt products are 100% American made.



Volt's facility is over 65,000 square feet.

Volt can build certain tools promptly in 1-2 days, and house inventory for same day shipping.



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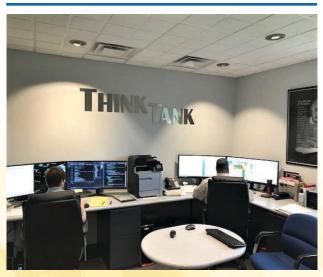
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NEF'S QUALITY INVESTMENTS PAYING BIG DIVIDENDS

Over the last year and a half, NEF's investments in its quality systems are now totaling well over half a million dollars and it is beginning to pay off in a very big way. NEF researched and then purchased several vision inspection systems that were designed to measure multiple profile dimensions which are accurate to +/- 0.0001 of an inch. These measurements are completed and recorded in less than a second. Along with the profile vision systems, tens of thousands of dollars were additionally invested into other visual and digital input measuring systems to ensure delay free access for every operator.

NEF's IT team, together with the quality and engineering managers worked in association with machine operators to custom design and develop a comprehensive user interface that integrates directly into NEF's extensive ERP system. It was no small task when you realize that this not only required the input of hundreds of thousands of industry specifications along with process rules but that



NEF'S IT AND QA DIRECTORS OFFICE (PARTIAL VIEW)



ONE OF NEF'S 5 OPERATOR INSPECTION STATIONS

it all had to coincide with the logic to tie everything into the NEF production and process travelers.

The end result has dramatically increased the flow as well as the number of inspections in far less time and with virtually zero errors. The ability to obtain and retain now copious amounts of information for future data mining and analysis will also allow NEF to stay focused on their continuous improvement programs in both quality and manufacturing efficiencies. Reporting on the first piece or final inspections, as well as PPAP's, SPC and other custom reports, are becoming far easier, faster and extremely accurate. New features that have been built into the system also include error proofing, as well as ensuring sequential processes are followed to avoid costly mistakes, all of which reduces costs which benefit NEF as well as their customers in a significant and meaningful way.





Joe Dysart

Joe Dysart is an Internet speaker and business consultant based in Thousand Oaks, California. A journalist for 20 years, his articles have appeared in more than 40 publications, including The New York Times and The Financial Times of London. During the past decade, his work has focused exclusively on ecommerce. Telephone: 631-256-6602; web: www.joedysart.com; email: joe@joedysart.com.

COOL NEW VIDEO MARKETING TOOLS FOR FASTENER DISTRIBUTORS

With more than 1 billion users on YouTube now according to the company's statistic page (www.youtube. com/yt/press/statistics.html) - upping your game on video marketing has never been more important.

"Today, there are more than 7 billion videos watched every day on Facebook and YouTube," says Brad Jefferson, CEO of Animoto (www.animoto.com), an online video creation service. "This represents one of the biggest marketing opportunities in a long time."

Fortunately, there has been onslaught of new video marketing tools cropping up on the market, which can ensure your fastener distribution business will stay a step ahead of the competition when it comes to dazzling current and prospective customers.

Here's a representative sampling of some of the newest and most innovative tools:

¤ Windows Story Remix (free) (www.youtube.com/watch? v=kh0be6z-ZI8). Promised for release late in 2017, Remix will be one of the first video editing tools driven by artificial intelligence.

With Remix, you can create a video from scratch, or you can tap its Al tools to have it create a video for you. Essentially, the tool is designed to sense the kind of video you want after you input raw video, still photographs, animations, soundtrack and the like.

After you've dropped in all you raw media, Remix automatically whips-up a finished video, which you can use as is - or tweak with its editing tools.

Al perks with the program include the ability to signal

to Remix who you want the star of the video to be, Remix's ability to create video cuts designed to match the beat of any song you include as a song track.

Story Remix also has pen and ink support. So you can handwrite a message over your video, or doodle over it.

And it offers collaboration tools, which allow a number of users to work on a video together.

Remix is slated to pop-up as a Windows app in the Windows store late in 2017. and will also be available on iOS and Android.



MICROSOFT CEO SATYA NADELLA IS PROMISING TO ROLL OUT ONE OF THE FIRST VIDEO EDITING TOOLS DRIVEN BY ARTIFICIAL INTELLIGENCE BEFORE THE **CLOSE OF 2017.**



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w Whochit (contact for pricing) (www.wochit.com). This is a video editing solution for fastener distributors with an interesting spin: Simply feed Wochit an article or other piece of text, and it will automatically roam the Web to find licensed photos, videos and graphics that go along with that text.

Currently used by a number of global news outlets to quickly generate videos from their articles, Whocit also offers a drag-and-drop canvas you can use to quickly drop in the photos, videos and other graphics it finds, so you can finish a video in record time.



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Laurence Claus

Laurence Claus is the President of NNi Training and Consulting, Inc. He has 25 years of experience with a medium sized automotive fastener manufacturer, holding positions including Vice President of Engineering, General Manager, Director of Quality, Director of New Business Development and Applications Engineer. In 2012 he formed NNi offering technical and business training courses as well as technical consulting, expert witness and consultation work. He can be reached at 847-867-7363 or by email: Lclaus@NNiTraining.com. You can learn more about NNi at www.NNiTraining.com.

WHY FASTENERS FAIL PART 2 -OVERLOAD, FATIGUE AND CREEP

On December 7, 1982 riggers were lifting the final section of the planned Senior Road Radio Transmission Tower into place. The Senior Road Tower was a 1975 foot tall guy-wired radio mast in Missouri City, Texas. It was the planned new transmitting site for five FM radio stations. At 1975 feet it would be about 100 feet short of being the tallest structure in the world at the time.

Construction of the tower was done in stages. Sections would arrive on flatbed trucks, be lifted off, hoisted into place and connected one after the other. All had gone without difficulty until they reached the final section. Unlike the other sections, which were basically just structural framework, the final section had many dishes and antenna components attached to its side. This posed a problem because, although the fabricators had wisely attached lifting eyes to each section to aid removal from a truck and in hoisting, the dishes were located so that once the section began to transition from the horizontal position it was lifted off the truck into a vertical position to hoist it in-place, the hoisting wires would contact and damage the dishes. Since this was not an acceptable alternative, the riggers requested that the offending dishes be removed and be reassembled after the last section had been connected. Fearing that reassembly might not restore the dishes to their proper positions, which could affect future signal transmission, this request was denied. Faced with this dilemma, the riggers constructed a set of "outriggers" that would extend the hoisting cable connection points outward

and away from the fragile dishes. These "outriggers" were jerry-rigged assemblies of whatever they had at their disposal and were fixed to the main structure using several run-of-the mill U-Bolts.

With a solution in-hand, the riggers began hoisting the final 12,000 pound (6 ton) section. As it reached about the 1000 foot mark, one of the U-Bolts gave way causing a chain reaction failure of the other U-Bolts and "outriggers", releasing the section to hurtle to the ground. As it fell, it contacted and severed two of the twenty-four supporting guy wires. Instead of slicing right through them, however, it initially bent the tower in that direction and sent it whipping back once the guy wire severed and released tension on the tower. This resulted in the failure of the other guy wires and sent the entire tower crashing to the ground. Tragically five riggers, three that were riding the hoisted section and two that were positioned at the top of the tower to receive the section, fell to their death.



FIGURE 1: CRUMPED STRUCTURE AND GUY WIRES OF THE COLLAPSED TOWER





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CONTINUE TO PAGE 18

VISIT BOOTH

LE USA[®]: BUILDING FOR THE FUTURE

What do many of America's great skylines, stadiums, airports, bridges and more all have in common? Aside from their inspiring architecture, they are secured with **LE USA**® fasteners currently produced in Frankfort, Indiana.

Centrally located in the American heartland,
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and provides customers with the highest quality
cold-formed fasteners produced from steel
melted and rolled exclusively in the USA. In fact,
Fontana Fasteners will be the only North American
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Continued on page 18









LE USA® STRUCTURAL STEEL FASTENERS

Featuring quality materials, state of the art production techniques, and corrosion resistant coatings, **LE USA**° structural steel fasteners are best known for their crisp corners and defined chamfers that give excellent wrenchability and ease of engagement.

Another feature of **LE USA*** products: convenience. The breadth, depth and quality of the **LE USA*** fastener catalog provides single-source convenience for virtually any project. What's more – **LE USA*** fastening systems come packaged in distinctive green pails that make them easy to identify at the job site.

Looking ahead, **Fontana Fasteners** continues to focus on quality, consistency, value and market awareness. They constantly watch the market for new fastener opportunities, and then invest in manufacturing systems to fill the need for the years to come. This helps keep our distributors and customers in the forefront – leading with quality and precision.



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Acument's Saturn Fasteners, Inc. of Burbank, CA, has been setting standards for civilian and military aerospace manufacturers since 1989. From aircraft such as the B777 to the futuristic F-35 Lightning, Saturn Fasteners are meeting the needs of manufacturers worldwide.

As a member of the **Acument** family of brands, **Saturn Fasteners** systems are chosen primarily for use in airframe construction. Their fasteners are available in steel alloys, A286 stainless, and even Inconel and titanium as the project demands. Sizes are available in both metric and inch, in sizes from 4-40 to ¾ " (20mm) diameter cold headed up to 1 ¼" (32mm) hot headed.



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While known as a producer for specialty "build-to-print" projects, **Saturn Fasteners** has expanded their catalog into wider applications through strategic acquisitions of primary and secondary machining equipment, including the SACMA 5 die progressive header, the 6,000 rpm Cubic GT-Mini Plus high performance CNC lathe that can hold tolerances as tight as .0001" and the Trident TR51E 3-axis tapping center.

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With an expected opening in the second half of 2018, the new **Acument** Monterrey facility offers not just expanded capacity for current products, but

also the ability to offer new capabilities and products to serve new customers and markets.

Of even greater benefit to **Acument's** customers is that this will offer far more vertical integration in terms of process offerings than what is available today. For customers, that means complete **Acument** quality stewardship over the product manufacturing process, including control over production and delivery schedules.

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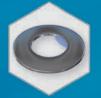


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Richard Hagan

Richard P. Hagan is the president of Pinnacle Capital Corporation, a boutique investment banking firm which specializes in providing merger & acquisition advisory services to the global fastener industry. Hagan has more than twenty-five years of international investment banking experience and has worked on successful domestic and cross-border M&A transactions, corporate restructurings and capital raisings. Hagan earned a B.A. in Economics from the University of North Carolina at Chapel Hill and an M.B.A. in Finance from Fordham University in New York City. Contact: Phone: 212-267-8200 or Email: rphagan@pinnaclecapitalcorp.com.

FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE FIRST HALF OF 2017

In this issue, we will briefly review all the fastener company acquisitions - a total of 21 worldwide completed during the first six months of 2017. It is impossible to track every single fastener company transaction because many deals involving private companies are not publicly disclosed. That said, we believe the following list is the most comprehensive and detailed you will find.



January 2017. **Simpson**

Manufacturing Co. Inc. ("Simpson") purchased Gbo Fastening Systems AB, doing business as Gunnebo Fastening Systems ("Gunnebo"). Founded in 1764 and headquartered in Gunnebo, Sweden, Gunnebo is a manufacturer and distributor of construction fasteners sold primarily in the Nordic countries, Russia and Eastern Europe. The company's product offering includes nails, screws, collated fasteners, anchors and connectors. Gunnebo operates manufacturing plants in Sweden and Poland, employs approximately 220 people and generated net sales of \$42.6 million in calendar 2016. Through its subsidiary Simpson Strong-Tie Company Inc., Simpson (NYSE: SSD) designs and manufactures wood and concrete construction products for new construction, retro-fit and DIY (do-ityourself) applications. The company's product range includes fastening systems, anchors, connectors, truss plates, adhesives and powder actuated tools. Founded in 1956 and headquartered in Pleasanton, California, Simpson operates from 23 manufacturing locations and distributes its products globally. The company employs more than 2,600 people worldwide and generated net sales of \$860.7 million in calendar 2016.

Purchase price: \$10.2 million



On January 12, 2017, **NORMA** Group SE purchased Indústria Metalúrgica de Agueda Lda., doing business as Lifial. Founded in 1988 and located

in Agueda, Portugal, Lifial is a manufacturer of heavy duty clamps, pipe supporting clamps and U-bolt clamps for construction, agricultural and general industrial The company sells its trademarked applications. clamps to end-users and distributors across Europe and North Africa. Lifial employs approximately 100 people and generates annual net sales of around 8 million. NORMA Group was formed in 2006 with the merger of Rasmussen GmbH of Germany and ABA Group AB of Sweden. Headquartered near Frankfort, Germany, NORMA Group (Frankfort Stock Exchange: NOEJ) develops and manufactures a broad range of clamps, connectors, fittings and joining products for companies and applications around the globe. The company operates 28 production facilities across Europe, Asia and the Americas and employs around 6,700 people worldwide. In calendar 2016, NORMA Group generated net sales of EURO895 million.

Purchase price: not available



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Long recognized as a leading producer of customized fasteners and hardware, Alpha Grainger Manufacturing also stocks a wide array of standard parts that are ready to ship and priced competitively.

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Guy Avellon

Guy Avellon has been in MRO and Fastener Distribution for over 30 years, in such positions Sales Engineer, Chief Engineer, Manager of Product Marketing, Product Engineering & Quality and Director of Quality & Engineering. He founded GT Technical Consultants where he performs failure analysis, lectures on fastener safety, works for law firms and designs/audits Quality systems. He is a member of SAE, is Vice Chairman of the ASTM F16 Fastener Committee, Chairman of the F16.01 Test Methods Committee and received the ASTM Award of Merit in 2005. Guy can be contacted at 847-477-5057, Email: ExpertBoltGuy@gmail.com or visit www.BoltFailure.com.

WHAT FASTENER DISTRIBUTORS NEED TO KNOW ABOUT WASHERS

Many times, the question is asked; do we still need washers? The short answer is: yes.

Besides adding a line item to an order, flat washers will offer the customer several advantages; if the surface is rough, the washer covers it and provides a smooth and even load bearing surface; against softer materials, the washer will prevent embedment of the nut or bolt head into the joint material; the washer will protect the surface of the joint material; the washer will assure joint integrity by bridging slightly oversized holes to provide support to the fastener; promote electrical conductivity and contribute to the vibration resistance of the connection.

The maintenance supervisor may have ordered Grade 8 bolts and nuts but the P.O. just says 'washers', it is best to match all of the products with the same performance characteristics, as there are several choices to make; plain or hardened, USS or SAE, plain finish, plated or galvanized?

USS or SAE?

Among the first known commercial flat washers were the wide style USS flat washers. The USS designation was derived from the name "Unified Standard Series." At the time, coarse threaded fasteners were also called USS bolts. Even today, many will still refer to coarse threaded bolts as being USS and will also believe that the USS flat washer is meant to be used with the 'USS' coarse threaded bolt. As we shall later see, this is not the case and is incorrect for many applications. The 'USS' term has since been replaced with the UNC designation, which represents Unified National Coarse, to properly identify

The USS flat washer was first developed in the early

19th century for applications involving compressible materials, such as wood, thin sheet metal, etc. The outside diameter was wide enough to provide a large surface area to prevent embedment of the bolt head into the material and minimize joint compression while the inside diameter was large enough to accommodate bolts with very loose tolerances for handmade bolts of that era.

Since the Great Industrial Revolution, more equipment and machines were made of steel, which did not compress as did the wood. Therefore, the smaller, more compact SAE flat washer was developed and named after the Society of Automotive Engineers.

The inside diameter of the SAE flat washer is much closer to the diameter of the size of bolt it is to mate with since the bolts of today are all manufactured to close tolerances by machine from cold forming to hot heading. The outside diameter of the SAE flat washer is also smaller as it does not need to provide for a large load bearing surface area to prevent compression as did the USS washer against compressible materials.

Figure 1 illustrates the dimensional differences between the same internally sized flat washers: the USS flat washer being on the left and the SAE washer on the right.



FIGURE 1



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EXHIBIT SALES STRONG FOR UPCOMING FASTENER FAIR USA



After only three months, exhibit sales for the inaugural Fastener Fair USA show have surpassed expectations. Show Management has announced it is expanding the floor space from 25,000 net sq. ft to 40,000 net sq. ft., as close to 100 companies have already reserved their space. The first edition of this unique industrial fastener and fixing show will take place April 11-12, 2018 at the Huntington Convention Center in Cleveland, OH.

The only fastener and fixing event in the USA for the full supply chain, Fastener Fair USA is the premier event bringing together manufacturers, distributors, suppliers and end users in the region's only dedicated fastener, fixing and joining technology exhibition. The show offers a first-hand look at the latest solutions and technology available in the marketplace, as well as topnotch educational programs developed and delivered by industry experts.

There will also be networking events to facilitate relationships and collaborations with industry peers. The highlight will be a Welcome Reception on April 11, 2018 at the Rock and Roll Hall of Fame.

Success So Far

As mentioned, the exhibitor results have been strong to date, necessitating more space on the floor to accommodate the demand. Some of the companies that have committed to exhibit at the show hoping to get their products and solutions in front of more U.S. customers in 2018 include Intools, Carlos Salvi, Brighton Best International, Rotor Clip, Dorken MKS-System, TR Fastening, SACMA, Buckeye Fasteners, Vogelsang Fastener Solutions, Aluminum Fastener Supply Co., Wrentham Tool, Tramec-Continental-Aero, Lindstrom Fasteners, Easylink Industrial Company and the Phillips Screw Company.

In addition, Fastener Fair USA is already garnering industry support from associations like Women in the Fastener Industry (WIFI) and the Fastener Training Institute.

Media support has also been very strong with partners signing on from around the world, such as Fastener + Fixing Magazine, Distributor's Link Magazine, FastFixTechnology. com, Fastener Technology International, Fastener Eurasia, and ChinaFastener.com, Industrial Equipment News and ExpoMetals.net.



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Steven Sherman

Steven Sherman is Vice President of Industrial Rivet and Fastener Company, the manufacturer of RivetKing branded Permanent Mechanical Fasteners. Steven joined the company, which was founded by his great-grandfather, in 1998 as Production Control Supervisor after attending UC-Santa Barbara and Santa Barbara City College. With his multi-faceted experience that ranges from cold forming through to application engineering, Steven focuses on helping bridge the gap between suppliers and their customers. He regularly hosts seminars and training sessions to broaden the industry's knowledge and demonstrate the benefits and effective use of riveting technology.

RIVETNUTS: PULL AND PRAY GIVES WAY TO A BETTER SOLUTION

When you need to add strength to thin materials, using rivetnuts is an excellent solution. That's because the additional threads of a rivetnut give fasteners a more secure joint.

When not installed correctly, however, rivetnuts can lead to increasing costs in tool repairs and production stoppages, as well as warranty claims due to stripped threads or rivetnuts that are not set completely.

While traditional installation methods have some drawbacks, recent technology advancements can help your customers ensure they are using rivetnuts properly.

torque. Plus, the setting stroke of spin-spin tools is extremely sensitive to the lubrication on the rivetnut itself, and the air pressure supplied to the tool.

Spin-Pull - The key difference in spin-pull tools is that pull force is applied without using any torque to deform the nut. The first trigger spins on the rivetnut, and the second applies a dynamic load and pulls to deform and set it. Spin-pull tools are faster and more reliable than spin-spin technology, making them be best choice for high-volume production environments.

Rivetnut Installation Methodologies -What You Need to Know

spin-Spin - The oldest methodology, spin-spin, uses rotational power (torque) to deform and set the rivetnut. While this technology is generally effective, it does have some shortcomings. To start, it's slow since

the torque applied follows the path of the thread helix and is dependent on supplied air pressure. It also leads to high mandrel wear because of the friction created by the installation



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HALL OF FAME AND YOUNG FASTENER PROFESSIONAL AWARD WINNERS ANNOUNCED by Courtney Harold



The Fastener Show has partnered with the Fastener Industry Coalition to choose the winners of The Fastener Hall of Fame Award and the Young Professional of the Year Award. The Fastener Hall of Fame Award recognizes and honors inventors, business leaders, and educators who have made significant contributions to the fastener industry. The Young Fastener Professional of the Year Award recognizes and honors a young professional under the age of forty who has made significant contributions to the fastener industry. A special recognition award ceremony will take place on the show floor in the Session Area at The Fastener Show in Las Vegas, NV on Wednesday, October 18, 2017 at 3:30 p.m.

The Fastener Show Inducts Field Fastener CEO Bill Derry into Fastener Hall of Fame

Each year, The Fastener Show has recognized and honored inventors, business leaders, and educators who have made significant contributions to the fastener industry for their Fastener Hall of Fame. It is a prestigious award within the industry that has been around for 31 years. Nominees are reviewed by the Fastener Industry Coalition, members of thirteen North American regional and national fastener associations concerned with the distribution, manufacture and importation of fasteners as well as services to the fastener industry. In addition to identifying opportunities, contributing to change leadership, and being visionaries with unimpeachable integrity and respect in the industry, winners of this award have developed innovative models and made important educational and professional contributions that advance the fastener industry as a whole. Top industry challenges for 2017 include market consolidation with global expansion, supply chain shortage risks, and

solutions for new market adaptation

strategies. This year's winner has a global mindset with a focus on educating the next generation to adopt and integrate change.

About The Winner

The Fastener Industry Coalition committee reviewed a large field of

exceptional nominees before selecting Bill Derry. His road to becoming Chairman and CEO of Field Fastener in Machesney Park, Illinois included more than 45 years in the fastener industry, including over 20 years in leadership positions with Camcar Textron and Rockford Products. He and his brother acquired Field Fastener with only 12 employees in 1990, but the company has experienced an average 19% growth rate for the past 26 years and now has over 150 team members in twelve states and three countries.

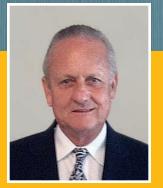
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Dennis R. Cowhey

Dennis, R. Cowhey, started Computer Insights, Inc. in 1981 and is currently COB. He served for many years on the Illinois CPA Society Computer Information Systems Committee. He is a frequent author of articles for Industry Trade Magazines. Before starting Computer Insights, he served as Central District Manager for a division of Litton Industries (now part of Northup Grumman). That company offered Inventory Control Systems to Retailers. Prior to that, he was a Credit and Financial Analyst for National Credit Office division of Dun & Bradstreet, Inc. He received his education at Chicago City College and DePaul University.

COMPUTERS - A MOST UNUSUAL ASSET

Computer System Depreciation

There are a number of things that are odd about purchasing a computer system and trying to estimate its value. The federal government treats it as a fixed asset which in general means that it would be depreciated over a five-year term. There are exceptions where it could be depreciated on an accelerated basis.

Actual Physical Value

When it comes to the actual value of the system, it becomes much more complicated. The computer hardware itself will be technically obsolete in 18 months. By that I mean that the computer that you purchased will no longer be being produced 18 months later. A few years after that, parts will be hard to come by and the maintenance of the hardware would be more expensive than replacing it.

Real Value - Priceless to Useless

At the same time, the real value of the system including the hardware, software and support can range from priceless to useless. The reason for this, is that unlike many other fixed asset purchases, the computer system consists of a variety of "soft values". These include the usefulness of the software, the quality of the support, the relevance of the software to the job at hand and the relationship that the buyer has with the software company.

Compare this, to purchasing a table or desk. The table or desk have only their physical dimensions, appearance and basic functionality to consider. 10 years after you purchase them, they will be the same as when they were purchased with the exception of some normal wear and tear. Their value is guite predictable and the performance to expect is clearly understood.

Useful Software

Useful software is software that has capabilities that would be considered adequate. An example of a useful program might be an off-the-shelf system that handles basic functions like accounting, billing and rudimentary inventory management. A system like that will take care of basic needs and probably won't directly cause any serious damage to the company. The risk with systems like this is that company employees must do many workarounds to get their job done. This wastes time and creates an opportunity for errors to be made. These are real costs, but they are difficult to identify. Over time, using an off-theshelf system can cause your company to lower its service goals simply because it's impossible to do any better with the software that is being used. Poor customer service can then cause customer relationship problems and even lose important accounts.





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Q&A WITH CARMEN VERTULLO

by Michelle Fuson, Service Representative

Many of you are familiar with Carmen Vertullo, whether through professional relationships, by meeting him at a fastener industry event, in the classroom, or from the technical articles he's written for Distributors Link Magazine. For this article we're going to turn the tables though - instead of Carmen writing the article, he's the subject of our interview as we get to know more about Carmen and the Carver FACT Center.

First, let's hear a bit about you, Carmen, and how you've become an expert in the fastener industry.

I first started working with fasteners while building and testing jet engines in the US Air Force. When I got out I used my GI Bill to get a BS in Manufacturing Engineering while working for a fastener supplier in San Diego. Since then I've accumulated over 30 years of experience in fastener applications, distribution, sales, quality assurance, training, and design. My company (Carver Engineering & Manufacturing, Inc.) has developed complex fastener solutions and provided fastener training programs for the US Navy, NASA, Naval Reactors, The US Army, electric utilities, water districts, manufacturing companies, steel erectors, associations, and many others. I'm currently a member of the ASTM International Technical Committee F16 on fasteners as well as the Research Council on Structural Connections (RCSC).

So what exactly is the Carver FACT Center?

Well first, FACT is an acronym for Fastening Applications, Consulting, and Training - and that's exactly what we do here. Our mission is to bring state-ofthe-art solutions to users, suppliers and manufacturers



ASME MEETING HOSTED AT CARVER FACT CENTER (JANUARY 2016)

of fasteners. We accomplish that by combining our technical expertise and facility resources with strategic partnerships. The Carver FACT Center is an extension of Carver Consulting which is the consulting arm of Carver Engineering and Manufacturing.

Who are your clients?

Our clients include suppliers, manufacturers, importers and users of fasteners throughout the United States. Many of them are names readers would recognize, from the largest to the smallest companies in the industry. We also have the occasional attorney client who need expert witness help.

One of our most important and distinguished clients is the Fastener Training Institute - FTI in Santa Clarita California. We have been developing and presenting training programs and webinars for FTI since the beginning of Carver Consulting. We have been especially active in FTI's Certified Fastener Specialist Program.



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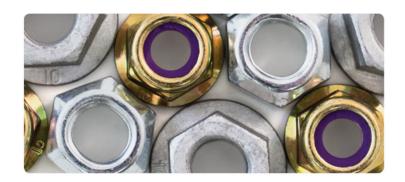
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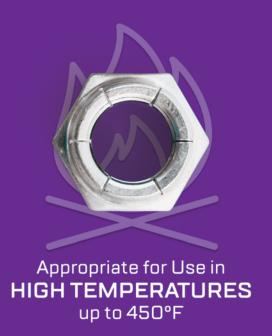
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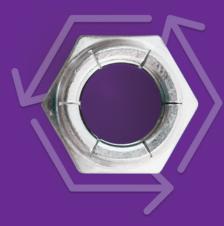
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distributor**news**

Superior Bolt, a premium manufacturing source for specialty fasteners and in-stock large diameter blanks finished to customer needs, is pleased to announce the addition of John Hollowell as Director of Sales.

John, based out of Michigan, has over 30 years of experience in the fastener industry and has previously worked for manufacturers such as Groov-Pin, SPS Technologies, Holo-Krome, Kerr Lakeside and Advanced Cable Ties. John has served on numerous industry technical committees including acting as Fastener Sub-committee chairman for NAAMS, a part of the Auto-Steel Partnership, for 11 years. Additionally, he has authored several articles on fastener products for industry publications.

For additional information contact John at Superior Bolt at 248-760-3244 or johnh@superiorbolt.com or visit Superior online at www.superiorbolt.com.

distributor**news**

Doerken **Corporation USA**, a global leader in the manufacture of corrosion protection



coating systems, for a variety of parts including fasteners, springs, brackets, clips, stamped parts and large underbody components, has announced the appointment Kent Anderson President. The announcement was made by Dr. Martin Welp, CEO of Dörken MKS-Systeme.

Frederick Schultz will lead the Doerken Corporation USA sales team in the newlycreated position of Director of Technical Sales. Schultz will report directly to Anderson.

Doerken's global coating solutions are approved for use by and meet the standards and specifications for corrosion protection, sealants, and **lubricity** performance of fasteners of vehicle manufacturers and Tier One suppliers worldwide yet are environmentally friendly. product lts development programs and manufacturing operations are certified in accordance with DIN EN ISO 9001:2000 and to ISO 14001.

For more information contact Dörken Corporation USA, 11200 Cedar Knoll Drive. Grass Lake, MI 49240. Tel: 517-522-4600, Fax: 517-522-8008 or visit the website at www.doerkenusa.com.

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Michael Mowins

Michael Mowins is the President-Global Licensing for Phillips Screw Company. He is the author of numerous articles on innovation, assembly, and quality. He has served as Associate Chairman for the National Fastener Distributors Association, Chairman for the Industrial Fastener Institute's Associate Supplier Division, and Chairman of the Aerospace Fastener Standards Advisory Committee. He serves on the SAE E-25 Engine Bolt, EG-1B Hand Tool, and G-21H Counterfeit Hardware Committees. He holds 4 U.S. Patents and is a graduate of the U.S. Naval Academy (BS) and University of Rhode Island (MBA).

MAXIMIZING DRIVER TOOL CONTACT TO OPTIMIZE **FASTENER INSTALLATION AND REMOVAL**

There have been many approaches to solving the problems associated with efficient torque transfer between the tool and the fastener. Understanding the importance of driver tool contact area is leading to the evolution of better solutions.

Since the first threaded fasteners were introduced, designers have been searching for the most efficient way to impart torque to the fastener to twist the threads into the mating nut, or form threads in the base material. Efficient torque transfer is critical in providing either the power needed to form threads in the mating material, or to achieve enough loading between the mating threads of the fastener and nut to achieve the needed

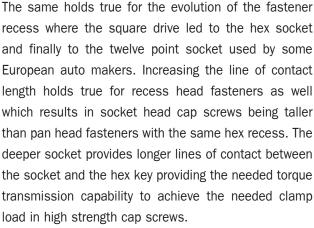
clamp load to assure a secure joint. The original slotted screw and driver provide only two thin lines of contact at the outer edge of the driver blade as the area through which the rotational torque is transmitted. Problems with the slotted driver damaging the head of the screw led to better recess and driver combinations like the Robertson square and the original Phillips cross recesses that provided four areas of contact and improved the torque transfer. Externally wrenched bolt heads had the same issues. The original square head bolt provided only four lines of contact at the corners of the square head when a square socket was twisted into engagement.

Evolution of fastener drive systems primarily focused on how to improve the number of lines of contact between the tool and the recess or bolt head.

> Square bolt heads evolved into six sided hex heads providing six lines of contact between the bolt head and the socket.

> > The hex head then evolved into the twelve pointed bi-hex heads based on the design philosophy that "more is better." Added engagement area between the socket and the bolt head could also be achieved by making the bolt heads taller and the sockets deeper, thus increasing the length of each line of contact; but, unfortunately, also

increasing the weight of the bolt.





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distributor **news**

Industrial Askew **Corporation**, CAGE Code 5A195, is proud to announce the launch of our e-commerce site for Mil-Spec fasteners - our new site at www. askewindustrial.com now allows you to order online at your convenience and have Mil-Spec fasteners shipped the same day!

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STAFDA'S AUSTIN CONVENTION & TRADE SHOW: UNPRECEDENTED RESPONSE by Georgia Foley

NERS

The Specialty Tools & Fasteners Distributors Association (STAFDA) is an educational association serving distributors, manufacturers, and rep agents of construction/industrial products. Membership nearly tops 2,500 worldwide.

Each November, STAFDA holds an annual meeting and this year's Convention & Trade Show is November 12-14 in Austin, TX at the Austin Convention Center. This is the first time STAFDA has ever met in Austin, one of the U.S.'s most popular destinations. Within one month of registration opening on June 26, the 700 booth Trade Show was sold out. Of the three host hotels, one hotel sold out in 4.5 hours, another within 48 hours, and the third hotel within a week. STAFDA added more booth space at the Austin Hilton and that sold out within 72 hours. The fifth overflow hotel is almost at capacity. One thing is certain: STAFDA members want to come to Austin! The three

education, networking, social activities, and of course, the trade show. But this year's meeting will have a new dimension to it - the involvement of upper classmen from four universities that offer supply chain, industrial distribution, or construction management majors. Purdue University, Texas A&M, the University of Alabama-Birmingham, and the University of Texas-Austin, will be sending students to interact with STAFDA members during a Young Professionals luncheon and more importantly, a Speed Interviewing Session.

The Trade Show will also have a different feel with the addition of island booths to break up the traditional all inline show. This year's STAFDA's Austin Convention highlights include:

Educational Workshops featuring top business

speakers addressing pertinent business issues from reviving work ethic, to winning customers back, the best methods to deliver employee praise (or ways to improve), to creating smart work teams. (Sunday, November 12, 8:30am - Noon)

The Young Professionals Luncheon is aimed at those 35 years and younger. This will be a moderated lunch by a Gen X speaker and former senior level manager at Southwest Airlines, Jason Young, who'll discuss "The New Diversity: Engaging the Generational Workforce."

Students will be sitting with STAFDA members during this interactive lunch and session! (Sunday,

November 12, Noon – 12:45pm)

¤ STAFDA's Speed Interviewing Session will allow students to man tables while STAFDA members 'table hop' every 10 minutes to interview another student. Students will have their resumes with them and members will have business cards, line cards, and other company collateral.

This will give students an opportunity to interview for a job post-graduation in their major or possibly land an internship. In today's competitive environment, there is a tremendous demand from STAFDA members for knowledgeable young talent to add to their company roster (Sunday, November 12, 1-4pm)

STAFDA is closing down part of 2nd Street for it's **Three hour block party** in and out of Austin City Limits. Tameka Jones will be on the street level in the 3Ten venue while Bob Schneider rocks the Moody Theater. The entertaining and colorful Minor Mishap Marching Band will perform their zany style out in the street. There will be food trucks, buffet stations, and libations to satisfy attendee appetites. (Sunday, November 12, 6:30 -9:30pm)

day meeting is a blend of



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Roman Basi

Roman Basi is the President of The Center for Financial, Legal & Tax Planning, Inc. Roman graduated from Milliken University obtaining a Bachelor's of Science Degree with a minor in Psychology. He earned an MBA from Southern Illinois University with an emphasis in Accounting and recevied his JD degree from Southern Illinois University. Roman is a licensed attorney in Illinois, Missouri and Florida and is in high demand for his expertise in financial, legal and tax matters. His areas of expertise include mergers and acquisitions, contracts, real estate law, tax and estate planning.

THE PRESIDENT'S EXECUTIVE ORDER 13789 AND ITS FUTURE EFFECT ON THE TAX CODE

The tax landscape in the United States continues to show the potential of changing in the very near future. As we saw with the House Ways and Means Committee's

report last summer, followed up by the President's tax proposal this Spring, and now the issuance of Executive Order 13789, the commitment to change and restructure our current tax laws OF THE is gaining momentum. Published in Volume 82, number 79 in the Federal Register on Wednesday April 21, 2017, Executive Order 13789 orders the Secretary of the Treasury to review "all significant tax regulations issued by the Department of the Treasury on or after January 1, 2016."

The order goes on further to state, "in consultation with the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, identify in an interim report to the President all such regulations that: (i) impose an undue financial burden on United States taxpayers; (ii) add undue complexity to the Federal tax laws; or (iii) exceed the statutory authority of the Internal Revenue Service."

The policies to be advanced are to lessen tax burdens, promote economic growth and unleash business from fines, complicated forms and frustration.

The interim report is due to the President in 60 days from the date of the order which put the report due on June 20th, 2017. As of the date of authoring of this article, the interim report has not been made public.

While the House Ways and Means Committee has put together what they call "the Blueprint"

(https://waysandmeans.house.gov/

taxreform/), the President has his position as well. The two plans are similar in nature and thus we should expect some change in the Internal Revenue Code in the near future.

One item that could be on the chopping block is IRC Section 199. The House Ways and Means Committee through the Blueprint

expresses on page 27 the following:

"Today, the tax code is littered with special-interest deductions and credits that are designed to encourage particular business activity. These provisions create incentives for businesses to make decisions because of the tax consequences rather than because of the underlying economics."

"For example, the domestic production ("section 199") deduction would no longer be necessary. Section 199 effectively provides a small rate reduction for income from certain specific activities, including domestic manufacturing, production, growing, and extraction. For corporations, the deduction effectively reduces the rate on such income from 35 percent to about 32 percent. For pass-through entities, the top rate is reduced from 39.6 percent to about 36 percent.

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DEMYSTIFYING TORQUE: WHAT YOU SHOULD KNOW

To many manufacturers, the concept of torque is a mystery. Ask them to describe the physics of torque and you'll likely meet a blank stare. Cracking open a dictionary won't help much either. To the layman the definition reads like a foreign language that owes more to mysticism than science. Despite the confusion, proper control of this mysterious force remains a critical component for quality manufacturing and has a direct impact on the bottom line issues like product quality, reliability and safety.

What is Torque?

Torque is a "turning" or "twisting" force and differs from tension, which is created by a straight pull. However, we use torque to create a tension.

How?

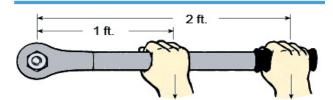
Diagram A Torque Force **Tension in Bolt** Clamping Force on Joint

As the nut and bolt are tightened, the two plates are clamped together. The thread angle in the bolt converts the force applied into tension (or stretch) in the bolt shank. The amount of the tension created in the bolt is critical.

Why?

A bolt tensioned properly works at its optimum efficiency and will resist coming undone. However, if the tension is too low, the nut could vibrate or work loose. If the tension is too high (overstretched), the bolt could break. Ever y bolt has a correct optimum torque/tension figure for each fastening application. It is important to have these figures available so that the end product will be safe, efficient and economical.

How Do We Measure Torque?



Example

Torque = force x lever length of wrench: Force of 20 lbs. \times 1 ft. = 20 lbf.ft Force of 10 lbs. $\times 2$ ft. = 20 lbf.ft

Torque is the result of multiplying the value of Force applied by the Distance from the point of application. Comparing the two examples, please note that the same Torque result can be achieved with a lower Force if the Distance from the nut/bolt is increased.

Another factor that affects applied torque when using torque wrenches is if it is "length dependent," which means that the actual torque applied to the fastener varies if the hand position on the wrench is varied (even if the wrench is preset). This occurs if the pivot point of the wrench mechanism is not coincidental with the point of application of torque.



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PROUD PLASTIC PIONEERS!

Craftech Industries, Inc., incorporated in 1972, was the brainchild of Donald Whiteman, a machinist, engineer, inventor and tinkerer - who was plant manager of a large fastener-manufacturing corporation. In the late 1950's, when plastics were first being widely employed. he realized that plastic fasteners and other components would become more and more critical as technology

developed. To this end, he bought up broken-down screw machines, restored them, and experimented with setting them up to machine plastic. Craftech has since grown from a basement business to over 40,000 square feet of manufacturing in two

buildings. It is currently planning another expansion in order to accommodate further production. It is still family owned and run by Mr. Whiteman's daughter, who has over thirty years' experience in the plastic industry.

Craftech's full product line includes many different metric and non-metric screws, bolts, nuts, bushings, threaded rod, standoffs, and a myriad of other molded and machined plastic products; many available in a large percentage of the hundreds of materials with which Craftech regularly works. The company also operates a mold building facility on premises and has a number of swiss and non-swiss CNC machines, as well as mills

and other specialized equipment. Many varieties of plastic and metal multi-axis parts can be produced: from prototype, to large-scale injection molding and assembly. Craftech has always sought solutions that focus on customer's needs, no matter how exotic they may be. Its engineering department offers technical services, including help with material selection. The sheer number

> of different plastics and their various grades can make a novice plastics designer's head spin. Craftech has 40+ years of experience supplying parts that have gone into everything from communications satellites to nuclear attack submarines. Mechanical

qualities often requested include chemical resistance, high tensile strength, corrosion resistance, insulating capacity, low coefficient of friction, good strength to weight ratio, non-flammability, and high dielectric strength.

Some of the materials used include: PEEK, Vespel, Torlon, Ultem, acetal, nylon, PVC, CPVC, PFA, Thermoplastic long-glass-reinforced TPU, PPA, and many others. Craftech is an ISO 9001 company that also offers PPAP, and ITAR compliance. There is a wealth of information about plastics and their properties on our website, www.Craftechind.com.



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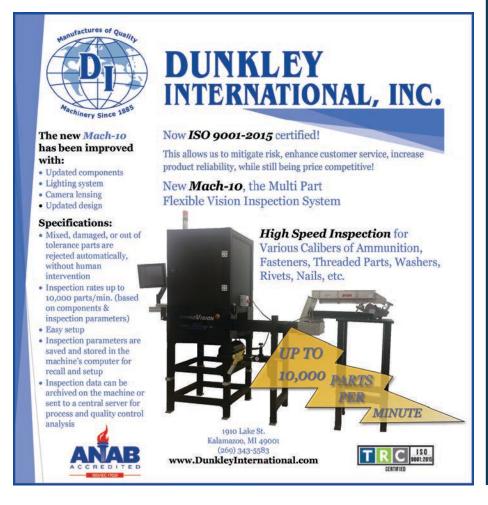


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distributor**news**

The **INFASCO** sales team and managers pose in their protective clothing prior to visiting Ivaco Rolling Mills (IRM) as part of their annual sales meeting in Canada earlier this year.



IRM is recognized as a leader in wire rod production for cold heading in North America with a rated capacity of 900,000 tons per year.

The recent substantial investments in the 450,000 square foot facility by parent company Heico assures full compliance with stricter air quality standards into the foreseeable future and further secures the flow of raw material to Infasco manufacturing divisions. Heico is a certified Woman Owned Enterprise based in the Chicago area.

Since 1958, INFASCO has been recognized as one of the leaders of quality made critical application externally threaded bolts. With vertical integration of all divisions, including IRM, we maintain control over the raw material, wire processing, cold forming, heat treatment, plating and packaging.

For more information about INFASCO contact Luc Fournel at Ifournel@infasco.com.

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Products

Nor-Cal Supply specializes in aerospace and aircraft fasteners per AN - MS - NAS - NASM specifications and Mil-Spec hardware and fittings. They stock a huge inventory of over 40,000-line items (over 40 million individual parts!) and have numerous sources for per print specials and hard-to-find parts. In most cases, orders placed by 2pm PST will ship the same day.

Aerospace, Aircraft & Military

Since 1950, they have been providing AN, MS and NAS fasteners to the aerospace, aircraft and government sectors. Nor-Cal Supply has built a reputation for friendly service, quality parts and on-time delivery. Certifications are available on most items.

Certifications

Their Quality Management System meets the standards of MIL-I-45208 and MIL-I-45662 and they're an approved supplier for NASA Ames, NASA Armstrong, Rolls-Royce Engine Services, Sandia National Laboratories and many more.

Dependability

During a recent interview, Sam Anderson, President said, "Longevity and dependability are qualities we



SAM ANDERSON - PRESIDENT OF NOR-CAL SUPPLY

take pride in at Nor-Cal Supply Company. We are a fullline fastener distribution company that specializes in certified aerospace, aircraft and mil-spec fasteners. Our customers depend on us to deliver the correct product with the correct certifications for every order."

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The late 19th Century of American history saw the birth of the American Industrial Revolution - and so began the history of Vertex Distribution with the 1881 formation of the Pawtucket Manufacturing Company ("PMC").

PMC began making nuts and bolts for the burgeoning industries that began to dot the landscape of the Northeast. Since this humble beginning in the "horse and buggy" days, PMC eventually grew over the next 135 years to become Vertex Distribution - one of the nation's premier master distributor of corrosion-resistant fasteners.

Many in the fastener industry know Vertex Distribution as "the old Bell Fasteners." However, through a series of growth and acquisitions over the decades (from West-Spec & Zelenda Metric to All Metric Fasteners), Vertex has expanded far beyond its Bell Fastener days.

The Vertex Distribution line now includes a full line of Stainless Steel Inch and Metric Fasteners, Alloy Steel Metric Fasteners, Blind Rivets, Hose Clamps and Security Screws. Vertex has stayed true to its manufacturing roots by making Silicon Bronze and NICU 400 alloy Hex Head Cap Screws at its Attleboro, Massachusetts location.

From its eight stocking locations nationwide, Vertex Distribution provides customers with high quality products, outstanding customer service and superior operational excellence every day with a commitment to quality in every order. From specialized packaging and bar coding to secondary services, mill orders, and stock & release programs, Vertex Distribution delivers a full range of solutions to meet distributor needs.

Expanding product lines to meet the ever-growing needs of distributors, Vertex Distribution has broadened its SKU line with Rivets, Hose Clamps and Security Screws, thus allowing distributors to consolidate vendors and save money in transaction and freight costs.

Recently, Vertex Distribution was acquired by Houston Wire & Cable (HWC). As a leading master distributor in the wire and cable industry, HWC supports continuous improvements at Vertex Distribution through its synergistic alignment of distributionbased selling with an aggressive approach to embracing new technologies across sales, operations, and the ever-changing digital frontier.











1881 Pawtucket Manufacturing Company was founded

135 years of growth to becoming the nation's premier master distributor of corrosion-resistant fasteners

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New WhisperGrip™ Subfloor Nails

holding power, reduce

squeaks, and eliminate

costly callbacks.

SENCO's WhisperGrip subfloor nails feature a patented ring design that was originally developed collaboration with manufactured housing industry to better grip subfloor and sheathing material. maximize

The lower rings are designed to fully engage and grip the joist or studs. The upper rings ensure that nails remain countersunk even if the joist or stud is missed. WhisperGrip nails come with SENCOTE™ coating, which acts as a lubricant during the drive for maximum speed and efficiency, then becomes an adhesive once driven for superior hold.

WhisperGrip nails are available in 2", 2-3/8" and 2-1/2" lengths and can be used with any SENCO 15 degree coil framing nailer including the SCN49XP, SCN60XP and SCN65XP. They can also be used with competitive coil framing nailers.

New SENCO Subfloor Screw

The new 08F175YKX subfloor screw features an

asymmetric double thread design that drives twice as fast as more traditional structural flooring screws while improving holding power. The 2/3 coarse thread allows the screw to pull the subfloor down tight, eliminating squeaks and costly callbacks.

The O8F175YKX's Rex drive design provides high torque transmission capability, engaging and disengaging quickly and easily, and improving

> drive performance and bit life. Bottom line. these screws can be driven as fast or faster than drywall screws, cutting installation time up to half.

The screw's robust steel construction and

design also eliminates head

breakage in hard subfloor material such as oriented strandboard or other engineered wood.

These new subfloor screws are available in 1-3/4" and 2" lengths and are ideal for fastening subfloor to wood joists. Used in conjunction with SENCO's DuraSpin® auto-feed screw fastening systems (we recommend the DS440AC 4,000 RPM model with an extension pole attachment). the new screws can reduce installation time and effort even more.

The new screws are packaged in 1,000 count boxes as opposed to traditional tubs.







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A E H All Electronics Hardware

"Whatever It Takes"



distributor**news**

AEH (All Electronics Hardware, Inc.) based in Algonquin, Illinois is currently led by General Manager Darren Pavoris. AEH was founded by fastener industry veteran Ted Pavoris in 1993. Darren soon joined up with his father in 1995 and together they forged a dedicated focus on providing their customers with excellence in design, manufacturing and distribution fulfillment The original goal of providing the industry with high quality competitively priced plastic parts for both common everyday requirements as well as for specialty plastic part application needs remains intact today.

Now in its 24th year AEH has continued to embrace a longstanding "whatever it takes" culture that is recognized by a steadily expanding group of global partners. The majority of AEH sales are produced from proprietary tooling in the Upper Midwest.

In many cases AEH has successfully used segmented tooling to strike the right balance between tooling costs, part costs and anticipated production volumes.

The concept of continuous improvement has long been part of our commitment to do "whatever it takes". As examples AEH uses high quality adhesives to provide uncompromising long lasting and consistent application solutions for our OEM end users. Designs for our plastic parts consider and incorporate ergonomic user friendly features such as smoother more rounded edges for assemblers and operators as well as two up taping for repetitive higher volume production part applications. From innovative design to manufacturing exacting standards and ultimately getting the right product to your door when you need it we have got you covered. We are proud to mention that AEH consistently promotes environmental stewardship in all of our manufacturing activities.

Plan to meet with Darren Pavoris and his AEH associates in Las Vegas for the National Industrial Fastener & Mill Supply Expo - October 17-19, 2017 - Las Vegas Convention Center. Booth # 1359.

For more information, contact All Electronics Hardware by Tel: 1-800-778-7234 Fax: 1-847-658-4006, Email: contactaeh@ aehonline.com or visit online at www.aehonline.com.

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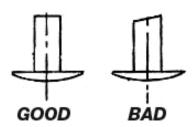
Anthony Di Maio

Anthony E. Di Maio attended Wentworth Institute and Northeastern University. In 1962 he started working with Blind Fasteners as Vice-President of Engineering & Manufacturing for two blind rivet manufacturers. He has been Chairman of the Technical Committee of the Industrial Fasteners Institute (IFI) and is still involved in the writing of IFI specifications. In 1991, he started ADM Engineering and is working with Fastener Manufacturers developing new fasteners and special machinery. He can be reached at ADM Engineering, 6 Hermon Ave., Haverhill, MA 01832; phone and fax 978-521-0277; e-mail: tdimaio@verizon.net.

HOW TO DETECT A QUALITY BLIND RIVET

The quality of a Blind Rivet can be detected by the following tell-tale signs.

Mostly all blind rivet bodies that are produced today are cold formed. They are manufactured from wire. The rivet bodies are call EXTRUDED rivet bodies. The other method of producing rivet bodies is manufacturing them from sheet material. This method is called STAMPED rivet bodies. Stainless steel rivet bodies are mostly stamped because of the high tooling cost for extruded bodies and the short tooling life.

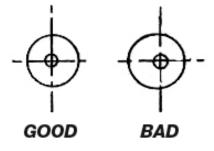


One tell-tale sign of poorly extruded rivet body is that end of the rivet body's barrel will not be square or 90 degrees to the centerline of the rivet body. This is caused by not feeding the extrusion tooling the correct amount of material. In this case, there is not enough material for the head forming die to produce a full length barrel.

This condition has a serious negative effect when

you are setting the blind rivet. When setting the blind rivet, the mandrel head will be deflected from it's centerline and will cause the upset side of the rivet to be forced to an off-center setting, which will effect the integrity of the set rivet.

A good quality cold headed or extruded rivet body will have the rivet barrel square and 90 degrees to the centerline of the rivet body as shown below.



Another tell-tale to look at is the diameter and the roundness of the rivet body flange. A quality extruded rivet body should have a flange diameter within the tolerance of +/- .010 total indicator reading TIR.

This condition is caused by not having enough material to fill the flange heading tool. Aside from having +/- .010 tolerance of the flange diameter, the outside diameter OD should be also concentric to the centerline of the rivet body within +/- .010 TIR.





NATIONAL FASTENER DISTRIBUTORS ASSOCIATION

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NFDA AND YFP PARTNER TO PRODUCE **LEADERSHIP ACADEMY** by Vickie Lester

To thrive in the future, the fastener industry needs to develop and support the next generation of leaders. Therefore, the National Fastener Distributors Association (NFDA) and Young Fastener Professionals (YFP) are partnering to foster the industry's future leaders.

The NFDA/YFP Leadership Academy will take place November 2-3, 2017, at the Crowne Plaza Chicago O'Hare Hotel and Conference Center in Rosemont. Illinois.

We are pleased to bring to the event Shelly Alcorn, a futurist and thought-leader, who will facilitate a collaborative and highly interactive experience for Leadership Academy participants.

Discussion topics may include:

- What are the most pressing issues that young professionals face in their careers?
- What will the workplace of the future look like and what skills will I need to thrive?
- How do I obtain these skills?
- What career development programs, products, and resources can associations like NFDA and YFP provide that would be most valuable to young professionals?
- What are the communication challenges in the workplace and what positive strategies can be used?
- What emotional intelligence is required to persuade others effectively and to participate in decision-making? The biggest opportunities for younger professionals

are to establish relationships early in their career, to continue learning (post-formal education), and to be involved in advancing their industry. The NFDA and YFP Leadership Academy will engage professionals from all generations, to ensure a pipeline of future leaders.

This program is limited to 36 participants and priority will be given to NFDA and YFP members.

For more information visit www.nfda-fastener.org or www.youngfastenerprofessionals.com.

NFDA 2017 Profit Report Now Available

Most distributors can justifiably feel pretty good about their recent operating performance. A growing, of not booming, economy has helped generate reasonable sales growth for most firms. There is a chance for firms to collect their corrective breath and plan for the future.

At the same time, there is continual pressure on gross margins from both existing and potentially new competitors. At the same time, upward pressures on costs, particularly payroll, refuse to go away.

Given this mixed environment, the NFDA 2017 Profit Report addresses three key questions for distributors:

[1] How are we doing?

What is the typical level of profitability in the industry?

[2] How good can we be?

What results are being generated by the most successful firms?

[3] How do we get to high-profit results?

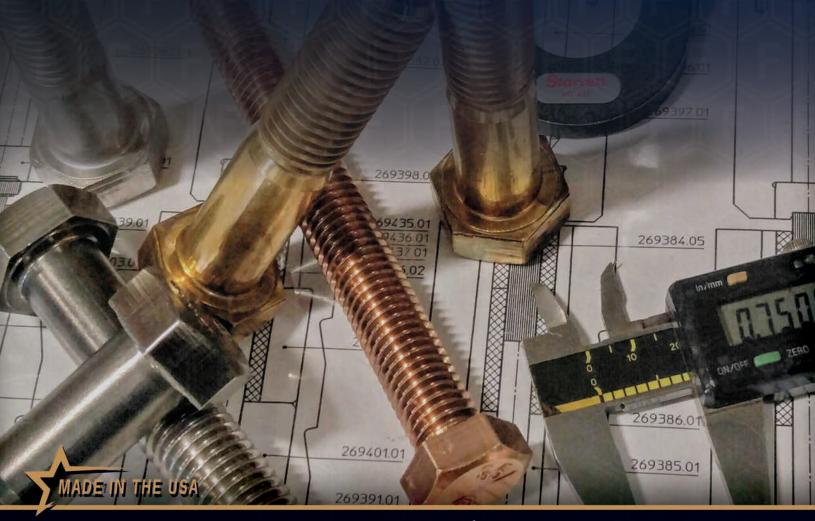
Which of the Critical Profit Variables (CPVs) appear to drive profitability?

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Jim Truesdell

James Truesdell is President of Brauer Supply Company, a distributor of specialty fasteners, insulation, air filtration, and air conditioning with headquarters in St. Louis. Mr. Truesdell is adjunct professor at Saint Louis University and Webster University. An attorney and frequently published writer, he is the author of "Total Quality Management: Reports From the Front Lines".

SOCIAL MEDIA AND EMPLOYEE FREE SPEECH

It seems like no rules apply to the social media universe! People are letting it all hang out emotionally and don't hold back from talking about the things they dislike when communicating on Facebook, Twitter or other forums. Whether it is complaining about a spouse or significant other, divulging one's innermost feelings, or

commenting on our divisive political environment. people say what they feel and think about it later. Sometimes they sign their name and sometime they post what they have to say anonymously. So what does this mean to an employer? What if an employee talks

about the inner workings of his employer's company? What if he or she spills embarrassing secrets or gossip that harms public perception of the company and its products or services? What if he or she gives vent to extreme negative feelings about a supervisor, senior management, or company policies with which he or she disagrees? Can the company do anything to limit this kind of activity? The answer is "it depends." And the law and administrative rulings are making it increasingly difficult for companies to do anything about it.

The first way in which an employer might address this is by establishing a policy outlining what is and is not acceptable employee references to the workplace while engaged in social media. The problem is, however, that recent case law and rulings of the National Labor Relations Board have narrowed the kinds of restrictions that a company can place on this kind of communication and can prohibit discipline related to postings critical of the Company. This all arises out of interpretations of



Section 7 of the National Labor Relations Act. That is the provision which protects union activity as well as non-union activity where employees act in concert for "mutual aid and protection" in their jobs when they are seeking to improve terms and conditions of

employment. Whether or not social media expression is a protected, concerted activity under the law comes down to whether the activity is (a) in "concert" (that is employees acting together and not just as individuals) and (b) whether this action is taken for "mutual aid and protection." The problem is that these concepts are being expanded by those issuing legal rulings to imply that there is concerted activity for the general benefit of employees even if the concerted activity is not overt, i.e. it grows out of some prior group activity or even when an employee is acting formally or informally on behalf of the group, or is soliciting others to engage in group activities.



RHS STAINLESS

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THE DISTRIBUTOR'S CHOICE FOR STAINLESS BAR PRODUCTS

RHS Stainless, a name inspired by the stainless shapes we sell, was founded in 2001 and has been leading the way with the supply of Domestic and DFAR compliant Stainless Round products to the Fastener Industry. We understand the different ways of manufacturing fasteners. therefore RHS Stainless has emerged to be one of the most prominent and diverse suppliers to the Industry.

The world moves fast - lead times are short - delivery is critical. We understand these demands and that's why we support the industry with one of the most developed inventories of Domestic Stainless Round Bar to ASTM A193 B8 and B8M. We have ready to ship today a comprehensive inventory of the most common Pitch Diameter Sizes as well as nearly every Nominal Size both in a variety of lengths.

From day one, RHS Stainless has maintained high quality standards. As bar rolls into our facility it undergoes an extensive inspection, examining diameter and length tolerances, surface conditions, heat numbers, grades and weights. This is our way of ensuring you receive exactly what you expect as well as reduce the release of substandard material.

Logistically, over the past decade, we've figured out how to deliver our product across the nation. Whether it's with one of our national box truck carriers or with a national flat-bed partner, we impose stringent standards so that they can move your material to you carefully and efficiently anywhere in the U.S.A. The people at RHS Stainless are committed to you, our amazing customers. We are also here to help those who would like to develop the Stainless side of their business. RHS believes we can all work together toward a common goal of fastening and strengthening the infrastructure of our great nation. We are all in this together and RHS is here to help and support the Fastener Industry.

BUSINESS FOCUS ARTICLE

RHS STAINLESS









distributor news

Vertex Distribution. a division of HWC, is pleased to announce that Richard "Rich" Megliola has joined the team as President of Vertex Distribution.

Rich began his career in the fastener industry after acquiring a degree in Marketing from Kean University. Rich has



excelled in every position he has held rising through the ranks of many companies, inclusive of serving in executive leadership positions in some of the fastener industries' most prominent and powerful players.

Rich's knowledge and experience is matched with his passion for the fastener industry as a whole, as he currently serves as a Board Member of the National Fastener Distributors Association (NFDA). This holistic vision and history within the fastener industry is why Rich was selected to lead Vertex Distribution into a new era as its president.

Rich is married with 2 children and resides just outside of Chicago, Illinois and he will primarily office from the Vertex Chicago branch office.

Founded in 1881 as the Pawtucket Manufacturing Company, Vertex Distribution traces its roots to the dawn of America's industrial revolution. Since its founding, Vertex Distribution has become a respected leader in the distribution of stainless steel and corrosion resistant fasteners, expanding its product line to encompass both inch & metric fasteners as well as hose clamps & rivets.

HWC is a national leader in the distribution of electrical wire, cable and related services including cable management systems, mechanical wire, fasteners, lifting & rigging hardware.

Comprehensive value-added services include same-day shipping, knowledgeable sales staff, inventory management programs, just-in-time delivery, logistics support, email and social media.

For more information regarding Vertex Distribution and a listing of their locations near you, please visit their website at www.vertexdistribution.com.



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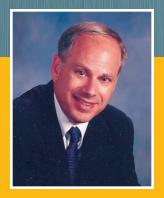
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Robert Footlik

Robert B. Footlik, PE is a retired Professional Industrial Engineer. With over 50 years' experience as a Warehouse and Logistics Consultant to a wide variety of clients including Fastener Distributors, Bob has a wealth of valuable information for our industry and he is willing to share it. While Footlik & Associates is now closed, his expertise is still available to his friends and our readers. For friendly advice, a second opinion or just to start a conversation, he can be reached at robert@footlik.net.

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"May I direct your attention to the plaque on the wall next to the door way. Yes, that is indeed my Father's name on the dedication. That means the university received a donation to fund this room, but more importantly in our context it means that what goes on in here has wider leeway than any class you have ever attended. This leads

to our first exercise in learning and layout."

"I hate the way this room works! Do you agree? How shall we make it better?"

"OK, everyone up! Grab your things and please reconfigure the table and chairs into a configuration that will facilitate communication. Flat rows of seating facing forward is for kids, not adults who want to learn from each other as well as their facilitator."

"Excellent, you have created a "U" shape so we can face each other. One more point and then we can get started. Inevitably students want to know how I will be grading their efforts. Quizzes and tests will be mostly nonexistent except for the "Dreaded Oral Exam Midterm" and the even more "Dreaded Open Source Final Examination." There will not be any way for you to study, cram or otherwise prepare for these tests at the last minute. Every element of the course builds on previous material. So unlike most courses as of this moment every one of you has an "A." All you can do is lose it."

"Those who are on top of their Email should have performed the first assignment before coming to class. We will not be following any real textbook, even the one you bought. Your learning will come mostly from selfstudy, the Internet, YouTube, personal experiences and much more. The text is strictly a supplement and there will be suggested chapters to read...if you want to learn more. Each chapter has questions and answers that you can use to evaluate your comprehension and retention. I don't need the answers, you do."

"As a reward I have arranged for the Trade Association that paid me to develop this text to provide a final examination of your self-study. If you pass there will be a certificate issued attesting to your new skill set.





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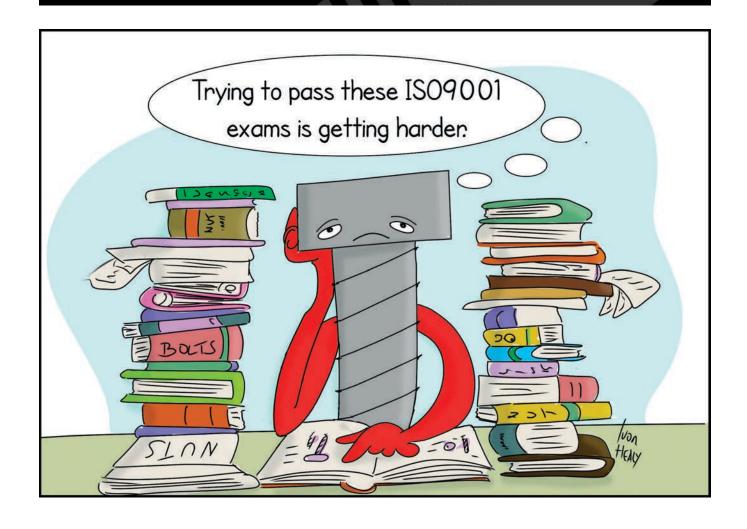
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by JASON SANDEFUR CONTRIBUTING EDITOR news@globalfastenernews.com



HIRING THE RIGHT PERSON FOR THE JOB

About 30% of employees in any company are "A" players, according to Bob Nugent, senior consultant at MAP (Management Action Programs). The rest are "B" or "C" players. Fastener companies face a staffing challenge: To produce more with fewer employees for customers who demand more for less.

"Organizations are flattening out, we don't have five tiers of management anymore," Nugent told members of the Pacific-West Fastener Association during the group's autumn conference in Whistler, British Columbia.

All jobs require the right talent for maximum performance.

"The only way you're going to find an 'A' player is to steal them," Nugent declared. "Everyone who is any good already has a job."

This reality puts a greater emphasis on a company's interviewing and recruiting process, Nugent advised.

A recent survey found that CEOs are not confident of their company's hiring systems (four-in-ten rate their hiring system an "8" or greater). Likewise, one in three CEOs claims that less than 50 percent of their new employees are successful.

Past research has found that as few as 3 out of 10 new hires were the right people, according to Nugent.

So how does a company identify "A" players? Most share these 10 characteristics:

- 1) They are team players.
- 2) They are self starters.
- 3) They look for a career, not a job.
- 4) They are honest.
- 5) They have a high level of integrity.
- 6) They are committed.
- 7) They do whatever it takes.
- 8) They are never satisfied.
- 9) They are responsive and reliable.
- 10) They are lifelong learners.



"'A' players want to know you're putting equity in their career," Nugent explained.

While managers should teach all employees how to think like business owners by looking for solutions to problems and considering the impact of their decision on the bottom line, "A" level players have already figured this out, according to Nugent. The key to successful staffing involves selecting, developing and retaining the right people for competitive advantage.

"Notice that says the 'right' people, not the best; the best might not fit with your company culture."

What makes people different than other resources in your business?

"People are not perishable resources to be consumed. They are valuable assets to be developed and invested in. 'Human capital,' plus they are the only resource that can increase their value exponentially.

To staff your business effectively, it's important to align staffing needs with company goals. If you can't identify your goals, start by completing a creating both strategic and annual operating plans.

"80 percent of entrepreneur companies that come to our business don't have a business plan."





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BEACON'S CUSTOMER PERFORMANCE NEVER FAILS. YOU CAN TEST US.

At Beacon Fasteners and Components we take performance testing very seriously and are committed to maintaining the highest level of quality on every product we offer. We proactively test every lot before it is accepted into

our inventory, rather than test parts after ASME specifications: Drive, Ductility,

Torsional Strength, and Hydrogen Embrittlement.

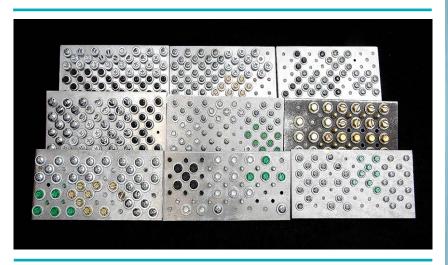
a problem develops. Starting with our supply chain partners and then in our in-house performance lab, each lot goes through a multi-level inspection process. While many suppliers only perform dimensional inspections, Beacon sets itself apart with supplemental in-house testing focused on product performance for every case-hardened lot for metal applications. Each lot is reviewed for compliance according to the four critical

Beacon is dedicated to building a strong and successful partnership with you!

We find that the most critical of the four ASME tests is our hydrogen embrittlement test. Hydrogen embrittlement can occur when hydrogen is introduced and absorbed into the metal causing the steel to become brittle and possibly fail. Although it usually occurs within 24 hours after installation, it can happen anytime. The most unpredictable failures result from hydrogen embrittlement and the effects can be minimal to catastrophic. This is why it is so important for us to take the extra time and

steps to test parts.

Five years ago we had a customer approach us when they were at risk of losing business from their largest customer.



They were supplying a 3/8 x 1 unslotted hex washer thread forming screw from another source and were faced with a hydrogen embrittlement issue that was causing the screw heads to pop off at the end user. The issue quickly became disastrous and they came to us to learn more about our testing procedures and to visit our in-house QA department.

We demonstrated how we test samples from each lot for 24 hours as part of our inspection process to assure no evidence of failure. However, we go a step further at our customer's request, and perform a 72 hour test as a preventative measure to help mitigate the risk before parts go out into the field.



Confidence in performance is important.

So our quality team tests every lot. Beacon is an extension of your quality department by providing complete documentation for every lot through our extensive in-house product validation procedures. Because of Beacon's relentless pursuit of quality improvement and assurance, our customers can feel confident that every part will perform as designed. In addition to complete dimensional inspections, every case hardened lot is tested for compliance according to the four critical ASME specifications:

Drive, Ductility, Torsional Strength, and Hydrogen Embrittlement.

- We perform real time testing and real time performance validation for our customers.
- We take extra steps to test every lot to assure that our high performance screws work and function the way they are supposed to in your customer's application.
- All performance testing results, inspection reports, and certifications are available at your request at no additional cost.



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LIGHT DUTY COILED SPRING PIN USAGE IN ASSEMBLIES WITH SOFT MATERIALS by Christie L. Jones, Market Development Manager

In recent years, the tendency throughout the industry has been to explore the use of new materials in order to reduce weight and process cost, or to provide solutions where more traditional materials such as steel, machined components or castings would not perform as well.

Under those considerations, the use of plastic, aluminium and soft alloys has seen an exponential increase, and nothing seems to indicate that this trend is going to stop. On the contrary, as plastics and moulding processes continue to advance, more and more applications that were traditionally made in steel are being reviewed to overcome the issues that prevented the use of these lighter, softer materials that provide equal or even better performance.

We can currently find numerous plastic components being used in demanding situations such as high temperature, high strength and chemical resistant applications. However, although the main component receives significant design attention and consideration, the mating components and the fastening method are habitually neglected until the end of the project.

Also, it is routinely assumed that parts and design concepts that previously worked in steel will work with the softer alloys and plastics.

When it comes to pinning applications in new materials, it is frequently a situation of going for the cheapest option and what is known in the industry. In many cases this is the (heavy duty) Slotted Pin per ISO 8752 (also known as the roll pin), which has been around for many years, developed from the old DIN 1481 standard. This pin was designed long before the advancements in production techniques and materials made lightweight / high-volume production feasible. The ISO 8752 Slotted Pin can and does, in fact, create significant assembly and quality issues in these new materials. Its thick wall, combined with an out-of-round or horse-shoe shape, does not provide the required flexibility for its use in relatively soft materials - often transferring the load from the pin to the wall of the host assembly, thereby damaging the hole, and resulting in premature assembly failure. In an attempt to reduce the disadvantages associated with the heavy duty Slotted Pin per ISO 8752, a light duty Slotted Spring Pin per ISO 13337 was designed. The main difference is the thickness of the pin wall. A thinner wall means increased flexibility, but also reduced shear strength, while other important issues remain unresolved. In fact, the thinner wall in and of itself creates new additional limitations with respect to fatigue resistance.

Light duty (ISO 13337) Slotted Spring Pins, similar to the more common heavy duty Slotted Pin (per ISO 8752), present a horse-shoe shape cross-section which will, in many instances, create skiving during insertion into the hole. Coupled with that, the expanded diameter of the pin in relation to the size of the hole has the effect of creating a pin with a very wide slot.

The result is a pin with an insertion force, and subsequent radial pressure against the wall of the hole, that will still be too high for most soft material applications, especially where holes are close to the edge of the component.





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DID QUALITY OUTSHINE QUANTITY? by Nancy Rich



June 5th - 8th was a very busy week in the Rosemont, IL area with **FASTENER TECH™ '17** featuring informative/educational sessions by various groups as well as social time with the All Industry Reception.

On June 5th Fastener Training Institute conducted a class on Why Fasteners Fail. Additional Sessions followed on June 6th. Sessions included Introduction to Coiled Springs by Spirol International, the Art and Science of Talent Development by Women in the Fastener Industry, Making Fasteners from Beginning to End by Fastener Technology Int'l, and a Networking/ Brainstorming Session hosted by Young Fastener Professionals.

The show featuring over 130 exhibitors showcasing manufactured goods and industry services. **FASTENER TECH™** '17 drew less attendees than **FASTENER TECH™ '15.** Despite this, the most common comment heard from exhibitors was attendance seemed down but they felt they really saw quality attendees. Many exhibitors felt confident they had made good contacts at the show. Shows are like business, some years are up and some are down. Exhibitors didn't look at FASTENER TECH™ '17 as an overall down year recognizing the number of contacts they were able to see and network with for the economical cost of the show. FASTENER

TECH™ '17 featured a low price for a complete booth package, exhibitor lunch and the All Industry Reception. Some of the sessions offered were gratis presenting and added benefit. Comments received include:

"Great job on the show once again. It was a success."

"Another great show, well done."

The popular All Industry Reception was held following the first day of the show. While exhibitors and attendees enjoyed cocktails and appetizers, Eric Dudas, of FCH Sourcing Network took the opportunity to present Mike McNulty of Fastener Technology Int'l with an award for his 100th Fastener News Report on Fully Threaded Radio.

We thank exhibitors and attendees who supported the show.

In 2018, MWFA will present their 37th Annual Fastener Show. Exhibitors are invited to register for exhibit space early by using the registration form or going online to www.mwfa.net for a registration form.



Expo & Golf Outing | June 4th & 5th

Celebrating Our 37th Year!

Join us June 4th & 5th, 2018 for MWFA's 37th Annual Fastener Show

Belvedere Banquets – 1170 W. Devon Elk Grove Village, IL 60007 Set-up Time: 10:00am-12 noon Show Hours: 1:00-6:00pm

Fastener Bash: 6:00-8:00pm

Exhibitor Registration

Please print or type – info will be used for show book)
ompany
rief Product/Service Description
treet Address City, State, Zip
hone Number Fax Number
mail Website
epresentative: (to receive further info & listed in show book)
/e would like (number) exhibit spaces for 2018. \$600 MWFA Member (after Jan. 14th \$600). \$600 Non-Members (after Jan. 14th \$650)
xhibit space includes: Skirted 6' x 30" table, 2 chairs, company table sign, two luncheon tickets, free attendee passes and Fastener Bash open to all badge holders).
ocation choices (please list three) See reverse side for floor plan.
/e will need electric* (additional \$25) Yes No Additional Lunch Tickets \$25 Yes No. of tickets
Invoice Us Check Enclosed Bill My Credit Card MasterCard Visa American Express
ard Number Exp. Date
gnature NOTE:
eturn this form with fees to: MWFA, P. O. Box 5, Lake Zurich, IL 60047. Note: No refunds after May 1st. This is a Table Top Show, appeals to a \$100 service fee. *If you require electric please select perimeter table or contact.

June 5, 2018 Golf Outing details to follow.

Hotel Information Fastener Expo & Golf Outing 2018

Country Inn & Suites (connected to Belvedere) 1160 West Devon Ave.
Elk Grove Village, IL 60007 (847) 985-0101

MWFA Office at 847-438-8338.

\$94.00 Room Rate Refer to Mid-West Fastener Association Includes complimentary breakfast, internet and airport shuttle.

there will not be enough room

for their set up.



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distributornews

SENCO Brands, a leader in powered fastening systems for construction, woodworking and industrial applications. announced today that it has been acquired by Kyocera Corporation, and will now operate as part of Kyocera's Global Cutting Tool Division. SENCO will continue provide the powered fastening categories most comprehensive line of pneumatic and cordless nailers, staplers, screwdrivers, and fasteners through its professional distribution network in over 40 countries. SENCO's global headquarters will continue to be based in Cincinnati, Ohio. Staff and management will remain in place and lead the integration transition to new ownership.

SENCO is a pioneer in pneumatic tools and collated fasteners, with a proud legacy that extends back to 1948. It employs nearly 600 associates worldwide and maintains operations in more than 15 global locations.

Kyocera Corporation multinational ceramics, electronics and industrial cutting tool manufacturer headquartered in Kyoto, Japan. Kyocera consists of more than 200 operating companies and has over 70,000 employees located throughout the world. Senco will report to Mr. Ken Ishii, Director & Senior Managing Executive Officer, General Manager of Corporate Cutting Tool Group.

For more information visit www.senco.com.

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UNCLOUDING CLOUD-ENHANCED ERP

Imagine facing this answer on Jeopardy!: ROI, Productivity, Sales, Data, Inventory, and Growth. What question comes to mind?

Obviously, each of these subjects represents significant real-world areas of focus for every wholesaler and distributor. Being able to properly manage them

is the primary indicator of a company's survival which is why so many distributors correctly turn to Enterprise Resource Planning (ERP) solutions like Cloud-enhanced ERP.

Within just a few short years, Cloud ERP software has quickly risen to become a desired deployment option for many distributors. In fact, Cloud ERP deployments have

already captured 25% of total ERP market share and are expected to grow at an annual rate of 8.3% over the next five years (RnR Market Research report, 2017). To understand the surge in Cloud ERP implementations, it's necessary to more closely explore the benefits distributors receive by putting their heads in the cloud.

Return on Investment (ROI)

Compared to On-Premise deployment, Cloud ERP provides the fastest path to implementation while avoiding the need to fund physical on-site servers and in-house IT support teams. How significant is that? A 2016 report by Nucleus Research found that Cloud ERP customers experience 43% faster ROI and spend 50% less on personnel and one-fifth as much on consulting.

With Cloud ERP, companies experience the additional benefit of having the option of paying for a fixed monthly management subscription instead of the large upfront capital outlay required with On-Premise deployment. These savings allow companies to allocate funds toward other key company initiatives like acquisitional expansion or growing the workforce.



Data Management

Data is wholesale distributor's single most important asset as every business function depends on quickly accessing relevant, accurate data. Productivity, Inventory, and Sales are all tied directly to the successful management of business data.

By utilizing accurate data, for instance, distributors end up

reducing labor costs by eliminating time-consuming part counts and simplifying the flow of products in and out of the warehouse. With data accuracy comes the ability to develop forecasting for guiding sales and purchasing decisions.

When combined with seamless program interconnectivity and companywide accessibility to customer and sales data, Cloud-enhanced ERP streamlines user productivity across all departments. Moreover, secure mobile accessibility provides management the ability to make decisions based on real-time data anywhere business is being conducted.

Growth

The ultimate goals of every company are profitability and growth, and the path to growth is made simpler with



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Fulfilling the demand for Cloud deployment flexibility and reliability, **ERP-ONE+** is a comprehensive application suite for powering sustained growth and competitive advantage. **ERP-ONE+** software is designed for wholesalers and distributors that require broad suite functionality within one fully interconnected system to handle their entire operational needs accurately and securely.

Presenting businesses with options relating to server location, updates, maintenance, and customizations, Cloud ERP from Distribution One provides the fastest path to successful implementation and avoids the need for physical servers and in-house IT support. Break free of productivity limits with **ERP-ONE+** Cloud.

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NEW ANCHORING SYSTEM SPEEDS WALL HANGINGS AND ELIMINATES UNNECESSARY DRYWALL HOLES

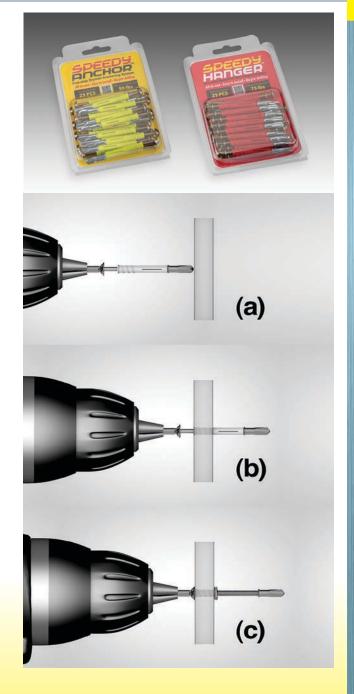
Sunlite Industrial Corporation, in collaboration with JB Fastener & Consulting announced the availability of SpeedyAnchor[™] and SpeedyHanger[™] - a new and innovative duet of wall hanging hardware. Both SpeedyAnchor[™] and SpeedyHanger[™] take the guesswork out of hanging pictures, shelving, TVs, and a host of other wall decor with first time success almost guaranteed.

Unlike current wall hanging hardware, SpeedyAnchor[™] and SpeedyHanger[™] employ a patented design that first drills through the drywall with an integrated drill bit. Then, SpeedyAnchor[™] and SpeedyHanger[™] automatically morph a locking retainer nut behind the wall board that securely snugs the anchor or hanger in place.

SpeedyAnchor[™] is best used for supporting objects such as shelving and wall mounted TV supports. SpeedyHanger[™] uses the same patented drill-andmorphed-nut feature, but offers a 0.25-inch standoff extension that provides a means of support for wall decor, photos and framed art.

SpeedyAnchor[™] and SpeedyHanger[™] are available in retail packaging of two, six and twenty-five pieces. A 100-piece contractor pack is also available.

SpeedyAnchorTM and SpeedyHangerTM can be seen and will be demonstrated October 17-19, 2017 at the National Industrial Fastener & Mill Supply Expo, Las Vegas Convention Center, Las Vegas, NV, Booth #336.









Jo Morris Marketing Director, Fastener Training Institute®

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MANAGEMENT MYTH: WE HAVE NO TIME FOR TRAINING

The Fastener Distributor Index reveals that the fastener industry is in expansionary territory. Sales figures remain strong indicating market conditions are solid and strengthening. People are busy, backlogs are high and customer activity is demanding. Is on-going training even important?

Employee training is something many organizations struggle with. There are issues with inadequate resources to facilitate the training and the downtime associated with pulling employees out of their job for a period. No time is convenient to take a break from the day to day battles of producing & delivering parts on time. When business is strong, analyzing employee training needs may seem like a waste of time or a misuse of resources. Yet there is no better time to review strategy and invest in your team. The Association for Talent Development (ATD) published a study exploring why training is important and directly tied training to increased employee engagement. "Disengaged employees and a high turnover rate impact your business' productivity." This statement is not news to any of us so if you have a great team of players, keep them engaged and invest in training!

The Fastener Training Institute, already known for high content fastener product and technical courses, will be expanding the curriculum in 2018 to include classes to support fastener sales, management & operational processes. All the classes at the Fastener Training Institute are developed and instructed by fastener industry experts. Direct access to these specialized experts is an immeasurable benefit to those attending classes with the Fastener Training Institute. Growing our team of instructors is important to FTI and industry involvement is paramount. Please contact us if you're interested in giving back to the industry by bestowing your knowledge and experiences.

Speaking of leading industry experts, Bengt Blendulf one of the most distinguished and dynamic fastener instructors in the U.S. and Europe, will be teaching "Fastener Technology Workshop" on October 17th in Las Vegas. This day-long seminar will focus



on the practical aspects of working in the fastener industry. Students will learn how to respond to technical questions from engineers and technicians and how to find the appropriate answers. Subjects covered will include:

- Product standards and materials
- Heat treatment
- ¤ Thread types and selection criteria
- Corrosion and prevention/protection
- Quality issues
- ¤ Vibration loosening and locking technologies
- Tightening tools and methods

Also new in 2018 is our expanded webinar series featuring proprietary products. This is where the Fastener Training Institute needs YOU. If you are an expert in your field and would like to educate the fastener industry on YOUR product, please reach out to us. We will assist in the production and marketing while you handle the instruction. We are seeking instructors for threaded inserts, rivets, anchors, self-clinching fasteners... and many more. Please contact Jo Morris at JoM@FastenerTraining.com for more information.

In December, FTI instructors Laurence Claus, Salim Brahimi and Jim Speck will present Fastener Training Week. This is a week-long training program, co-produced with the Industrial Fasteners Institute (IFI), for fastener distributors, manufacturers and end-users. The subjects include manufacturing processes, consensus standards, quality control and much more.



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Zinc Plating

Type: Acid Zinc Electroplating (clear/blue and yellow). • Zinc thickness: Up to 15μm. Salt Spray Test: Up to 240 hrs. • Process: Rotating barrel and hanging rack



Plate Fabrication

Maximum punch diameter: 1-1/16" • Maximum plate thickness: 3/4" • Maximum capacity: 1-1/16" Dia. in 5/8" A36.

Materials: Carbon Steel, stainless steel, aluminum, copper, brass, cold rolled, etc.

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Cutting, Threading & Bending

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Steel:

<u>Carbon Steel</u> (SAE) <u>Low:</u> 1004, 1006, 1008, 1010, 1012. • <u>Medium:</u> 1015, 1018, 1020, 1030, 1035, 1040. <u>High Tensile Steel</u> - 4140 (SAE). <u>Structural Steel</u> - Medium Resistance: ASTM A36. <u>Stainless Steel</u> - 302. • 304. • 316. • <u>Tempered Steel</u> - ASTM A193 4140 Grade B7.

Thread:

Types - UNC: Coarse Thread. • UNF: Fine Thread.

Process:

Roll Threading: Reduced diameter round bar. Cut Threading: Full diameter round bar.



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G.L. Huyett starts with hiring the right people and providing extensive training to ensure they have the knowledge and resources needed to provide exceptional customer service. "Outside of training, the most important resources we provide our team is innovative technology that allows us to focus intently on helping our customers solve problems and win new business," notes Dan Harriger, Vice-President of

As an aggressive adopter of technology, G.L. Huyett employs a robust e-commerce website, modern ERP System, Warehouse Management, and CRM. In 2017 they have added a number of innovations, especially in e-commerce, that elevate the customer experience. Harriger notes, "Our mission with e-commerce is to reduce transaction costs for our customers, while equipping them with substantive technical content that supports engineering and solutions selling to their customers."

Among innovations released in 2017:

- Ability to Download Free Material, Compliance, and RoHS/REACH Certifications*
- Check Order Status and Shipment Tracking Information
- View Complete Order and Invoice History
- Search New Digital Versions of our printed catalogs that allow users to click on an individual part and be



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- taken to a corresponding order page on Huyett.com
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- Find Alternate Products in different material or finishes in lines such as A Raymond Tinnerman™ or Spirol®

"A lot goes on behind the scenes to develop technology that augments our team's work," says Greg Tabor, Vice-President of Marketing, Sales Operations, and Purchasing.

^{*} Some exclusions apply.



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information visit www.huyett.com/ASQ-Society

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The Bradley Group of companies is now an approved coating partner for Precote® USA products. Precote® USA, LLC was established in 2013 as the North American service group for omniTECHNIK, a German company that specializes in high-performance fastening solutions. Precote® USA, LLC is the exclusive blender and distributor of the original Precote® products in North and South America. The Precote ® brand is the #1 microencapsulated chemical adhesive sold in Europe with a customer list that encompasses automotive, aerospace, heavy machinery, trucks, mass transportation, electronics, and may more industries.

Bradley has been a leader in the industry for applying thread locking materials including Loctite® Dri-Loc® Pre-applied Thread lockers, 3M™ Fastener Adhesive Preapplied Thread lockers, and Standard Nylon Patch. The Bradley Group is very excited to be able to now offer one of the leading Pre-applied materials in the industry, the Precote® USA products. All Materials are capable of being applied to both external and internally threaded parts.

The Bradley Group would like to announce that our corporate plant will be moving in the near future. We will be staying in our current home town of St. Charles, IL, however, we will be moving into a new 65,000 square foot state of the art facility. The Bradley Group will be adding more equipment and new high-speed machines that are specially designed to run your parts faster, and get your orders out the door and on the way to you. To see our new plant and to get updates on our progress, please visit our New Website at www.bradleygoc.com, and like us on Facebook.

We have hired Smith Associates, Inc. to represent us in the Mid-Atlantic Region and New England. Owned by Michael Smith, Smith Associates is a manufacturer's representative agency for the fastener industry. Mikes team includes Dan Bielefield and Cory Magyar. We are very excited about our new relationship and our future together.

BUSINESS FOCUS ARTICLE

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SOUTHWESTERN FASTENER ASSOCIATION

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SFA ANNOUNCE 2018 EXPO DATE: MAY 2-4, 2018 by John Elsner

The Southwestern Fastener Association will hold their 2018 Spring Conference and Expo on May 2 - 4, 2018 at the DFW Westin Hotel, 4545 W. John Carpenter Fwy, Irving, Texas.

The conference begins with a welcome reception on Wednesday evening, May 2. Educational Seminars will follow on Thursday morning. The golf tournament is Thursday afternoon. The tournament will be played at Tour 18 Golf Club, home of many famous replicated PGA golf holes from recognized courses throughout the United States. A full morning of Business Meetings and educational programming is scheduled to precede the Table Top Expo on Friday morning. The Expo will open at 1:00 p.m. Friday afternoon, May 4.

In other SFA activity, scholarships have been awarded to and the University they will be attending are: Ryan Bailey, Nucor Fastener, Louisiana Tech University; Halie Chapin, Advance Components, Texas Tech University: Allison Daneault. Threaded Fasteners. Inc., University of Southern Mississippi; Katherine Davis, BTM Manufacturing, University of Arkansas; Shae DeVito, Solution Industries, Inc., Baldwin Wallace University; McKenzie Kimrey, Tifco Industries, University of North Carolina @ Wilmington; Jamie Gates, Sems and Specials Inc., Southern Illinois University @ Edwardsville; Michael Tijerina, Tifco Incustries, University of Texas San Antonio.

2018 scholarship applications are available on the SFA web site at www.sfa-fastener.org. Deadline for submission is April 1, 2018.

For additional information about the Southwestern Fastener Association, contact John Elsner, Executive Director or visit them online at www.sfa-fastener.org.

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CONTINENTAL-AERO ADDS TO ITS PRODUCT LINE

Continental-Aero, a division of Tramec, LLC, is excited to announce the addition of two important product lines to our core product offering. The AERO-FLEX, a flexible All-Metal Prevailing Torque Locknut rounds out an already impressive mix of locking and non-locking nuts. Perfect for use in high temperature applications, the AERO-FLEX is designed to provide superb performance in high-vibration applications while still offering re-usability comparable to the much desired Nylon Insert. Breadth of line, plating alternatives and competitive pricing will make Continental-Aero your choice for the flexible Locknut.

Sure to come as a surprise to most, Continental-Aero has been supplying Floorboard Screws for over 15 years to a select group of customers. Now, Floorboard Screws are being added as part of our core product offering and available for shipment as early as November, 2017. Continental-Aero is an exceptional supplier to those distributors who focus on the Truck and Trailer Industry and when analyzing means to expand our product offering, Truck and Trailer needs are first on our list.

Call us for Metric Nuts! Continental-Aero stocks ISO 7042 All Metal Locknuts (Class 10), ISO 7043 Nylon Insert Flange Locknuts(Class 8 and 10) and ISO 7044 All-Metal Flange Locknuts(Class 10) in addition to a full line of DIN Specs.

> Outstanding quality has always been the foundation on which Continental-Aero's success has been built.

> To that end, we have invested nearly \$500,000 in top of the line testing equipment giving us the ability to test Torque, Coefficient of Friction, K-Factor and Vibration Resistance in our Alsip, IL facility. A new lab is under way and will be operational by January, 2018.

Since 1948, Continental-Aero is famous for and stocks one of the largest Locknut inventories with its branded Purple Color Nylon Insert Tork Locknuts, All-Metal Locknuts, Metric Nylon Inserts, Metric All Metal Locknuts, Gr 5 & Gr 8 Finished Hex Nuts.

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ROTOR CLIP INTRODUCES INTERLOCKING SPIRAL RETAINING RINGS by Vincent Rodgers

Recently, Rotor Clip engineers showcased their abilities to create custom parts and tools by introducing an interlocking spiral retaining ring. Utilizing a standard DCR non-interlocking spiral ring, Rotor Clip was able to engineer a custom tooling process to produce a new DCR-LS interlocking spiral retaining ring.

stays in the groove with higher RPM limits.

The locking mechanism of the spiral ring is also perfect for maintenance free applications. Further considering the example of a gearbox, manufacturers consider tightly sealed boxes with a very high cleanliness level to prevent

> any damages due to residual contamination. They are designed with components of the highest possible guarantee of no failure. An interlocking spiral ring used as a locking element can achieve a very low failure rate when operating inside the box.

> This eliminates the need to open the gearbox and replace the part, which can lead to additional unwanted contamination of the assembly.



One of the main advantages of the DCR-LS over the standard DCR are higher RPM limits, maintenance free applications, and tamper resistance.

Applications where an interlocking spiral ring is considered, such as a gearbox, require the ring the stay in the groove at higher RPMs.

High RPMs might cause the spiral ring to move out of the groove, causing application failures. The locking mechanism of the spiral ring ensures that the ring

Tamper resistance in applications is another example of why interlocking spiral rings are utilized. The interlocking spiral ring is more difficult for an operator to remove from the groove to make unauthorized or unnecessary adjustments to the machine.

The introduction of the DCR interlocking spiral retaining ring is yet another example of Rotor Clip engineers consistently improving and creating custom parts for our customers.





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TAKING THE LEAD IN LOCKNUT EXCELLENCE

COLOC Manufacturing is proud to announce its completion of a new, 6000 sq. ft. state of the art manufacturing plant. This addition brings COLOC's total production and warehousing space to 27,500 sq. ft. Located in Canton, Texas, COLOC has also added 16 new high precision Computer Numerical Control or CNC machines, increasing capacity and efficiency. With over 28

CNC machines now on the floor. COLOC has the capability to fill any order, large or small.

Emerging Products

Along with increasing capacity, COLOC is expanding our production into emerging product lines, such as Barrel nuts, 12 point nuts, and spline drive nuts. These Self-Locking nuts are in high demand in the aerospace and defense industry, and COLOC is expanding

to meet these demands. COLOC is also emerging as the premier manufacturer for custom and large diameter Nylon Insert Locknuts, with sizes ranging from 00-80 to 6", coarse and fine threads, in steel, stainless, or exotic alloys.

Fast Turnaround

While other manufacturers focus on large runs, with long lead times. COLOC's expansions are lead time driven. Additional manufacturing space has been added to help meet high demands, and keep our standard lead times of 4 weeks or less. We also offer expediting, as soon as 24 hours, to help meet customer demand for quick parts and Aircraft On Ground (AOG).

Domestic Manufacturing

Manufacturing nuts and custom internally threaded products since 1979, it is clear that COLOC is a factory that is here to stay. By offering quality products, and quick lead times, Hex nuts and Self-locking nuts 100% melted and manufactured in the USA are no longer a problem to

Knowledgeable Staff

With over 250 years combined experience, no fastening challenge is so great that it cannot be

> overcome with COLOC's help. Our knowledgeable and friendly staff has a deep understanding of the fastener industry, and military and aerospace specifications. Alloy selection for fastener environments can be a complex problem. COLOC can assist in choosing the correct alloys, and alternative alloys that might be more cost-effective and readilyavailable.



Stocking Manufacturer

More than 7,000 sq. ft. of finished parts storage, and over 2500 sq. ft. of raw material storage keeps COLOC and our distributors orders processed, and filled on time, every time. The large stock of finished parts, raw material, and nut blanks are another way that COLOC is investing in our customers, and short lead times.

Product Lines

COLOC manufactures custom, to blueprint, internally threaded products. We also STOCK and manufacture the following Self-Locking Nuts, DFARS and 100% Domestic. Finished Hex nuts, Hex Jam Nuts, Heavy Hex Nuts, Heavy Hex Jam Nuts, Nylon Insert Locknuts, Flex Type Locknuts, All Metal Locknuts, 12 point nuts, Barrel Nuts, Allen or Thimble Nuts, Chamfer Top Locknuts, Metrics, Elliptical Locknuts, Slotted nuts, Castle Nuts, Vespel ® 450°F insert Locknuts, in any finish.

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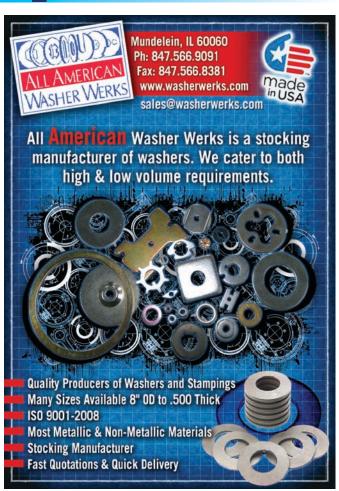
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Duplex
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Waspaloy to A286

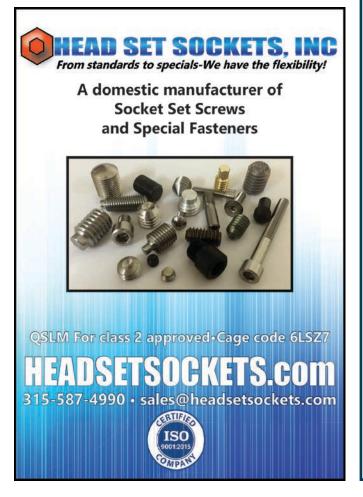
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distributor**news**

Head Set Sockets, Inc., CAGE Code 6LSZY, is proud to announce their approval as of January 24, 2017, by the Defense Logistics Agency (DLA), as a QSL Manufacturer for Class 2 Fasteners. To qualify for placement on the Qualified Suppliers List (QSL) you must demonstrate you have in place, and use on a routine basis, Manufacturing Processes and a Quality Management System that meet the requirements set forth by DLA.

Specializing in Socket Set Screws; Head Set Sockets can meet your needs with multiple Cold Heading Machines, Secondary Operation Machines, Thread Rollers, Thread Grinders and 5 and 6 Axis Swiss Type CNC Machines in-house. Head Set Sockets has the ability to produce complex special fasteners and fasteners made out of difficult to machine exotic materials such as $\mathsf{HASTELLOY}^{\scriptscriptstyle{\textcircled{\tiny{\$}}}}$, $\mathsf{INCONEL}^{\scriptscriptstyle{\textcircled{\$}}}$, $\mathsf{INCOLOY}^{\scriptscriptstyle{\textcircled{\$}}}$ alloy A-286, Duplex Stainless Steels and Super Duplex Stainless Steels, to meet the standards and requirements expected of a QSLM.

It is also with great pride that Head Set Sockets, Inc. would like to announce their successful transition from the ISO 9001:2008 Standard to the new ISO 9001:2015 Standard. ISO 9001 is an internationally recognized Quality Management Standard in over 170 different countries worldwide. The now current ISO 9001:2015 Standard is based on a number of key quality management principles which include a strong customer focus, the motivation and involvement of Top Management in all processes, implementing a process approach and having a commitment to continuous improvement. By successfully transitioning to ISO 9001:2015, Head Set Sockets, Inc., with more than twenty years in the fastener industry, has demonstrated their commitment to First Time Quality, Customer Focus and Continuous Improvement.

For more information contact Head Set Sockets. Inc. at PO Box 248, 10395 Railroad Avenue, North Rose, NY 14516. Tel: 315-587-4990, Email: sales@headsetsockets.com or visit them online at www.headsetsockets.com.



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NEW AEROSPACE & COMMERCIAL EM-STUD (ELECTRICAL GROUNDING STUD)

AVK offers a new unique alterative to E-M Stud fastening selection. AVK's E-M Stud alternative is a two

part Stud assembly encompassing a threaded stem locked to an insert sleeve by means of a mechanical crimp. This crimp ensures that the two components are one fastening component and will not separate preventing a F.O.D. (Foreign Object Debris) condition. And offering excellent grounding capability!



AVK offers a more ergonomic installation tool system-light weight/ease of use ARO Installation tool weighs

2.5 to 3.25lbs. offering a 68% ergonomic weight reduction over competitors.

AVK/ARO tools are less costly vs. current competitive installation tools. Ease of tool use, no tool adjustment, connect to air supply, no hydraulic fluid levels to check and operate,

AVK6000 Wireless enable battery tool, provides a "Pokayoke" - good or bad installation light, torque and download data

capability. The battery tool allows free movement throughout the fuselage or truck or bus body as a tool option.

See the EM-Stud and more new products at NIFMSE at AVK's Booth #1548.

Benefits of the new EM-Stud:

Ess hole sensitivity & superior Grounding – AVK studs can utilize current Aerospace or Commercial hole configurations and still meet form, fit, function and milivolt drop requirements.

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KEVIN CHAVIS RE-ELECTED PAC-WEST PRESIDENT

by Vickie Lester

Kevin Chavis of Star Stainless Screw (Commerce, California) was elected to serve a third term as president of the Pacific-West Fastener Association at a recent meeting of the Pac-West Board of Directors.

Chris McCaffrey of R&D Fasteners (Rancho Cucamonga, California) was re-elected as the association's vice president, and Ron Stanley of Empire Bolt & Screw (Spokane, Washington) was re-elected secretary/ treasurer. Rick Peterson of All-West Components & Fasteners (Seattle, Washington) stays on the Board as immediate past president.

Trevor Borland of Pacific Bolt Manufacturing (New Westminster, British Columbia), Joshua Hutton of American Bolt & Screw (Fontana, California), Ron Stanley, and Scott Webb of Bisco Industries (San Diego, California) were elected by the Pac-West membership to serve threeyear terms on the Board of Directors.

Other members of the Pac-West Board are Corey Bell of THB Inc. (Salt Lake City, Utah), Steve Kendall of Portland Screw Company (Portland, Oregon), Gigi Linsalata of Copper State Bolt & Nut (Phoenix, Arizona), Beth Van Zandt of Desert Distribution (Santa Clarita, California), and Doug Weiland of Stelfast (Milpitas, California).

At the association's recent fall conference, tribute was paid to retiring Board members Hans Fuller of Fuller (Surrey, British Columbia), Alison Hubbard of North State Fastener (Sunnyvale, California), and Clay Weaver of Industrial Threaded Products (Brea, California).

Pac-West's 2017 fall conference took place August 24-26 at the Fairmont Chateau Whistler Resort in Whistler, British Columbia. The conference featured the perfect mix of stimulating educational programs and fun events.

Education offerings at the Pac-West 2017 fall conference included:

- Daniel Riggs' (Wurth Industry North America) insightful presentation on "Minimize Your Risk!" thoroughly covered fastener import and export requirements
- Carmen Vertullo's (Carver FACT Center) program on "Fastener Lessons NOT Learned"
- Hans Fuller's and Chris McCaffrey's Ignite presentations over lunch
- Business Executives roundtable discussions
- Business Owners roundtable discussions
- "Hiring, Developing, and Retaining 'A' Players Using Predictive Analytics by Robert Nugent with Management Action Programs

Conference social events included golf at the Fairmont Chateau Whistler Golf Club, a Peak 2 Peak gondola experience between Whistler and Blackcomb Mountains, a spouse/guest Whistler Tasting Tour, and a fun Olympics-style competition during the Friday night banquet.

Pac-West's next conference and 50th anniversary celebration will take place April 18-21, 2018 at the Scottsdale Resort at McCormick Ranch, Scottsdale, Arizona.

Also on the schedule for 2018 is the Pac-West Fall Conference, August 8-11 at the Grouse Mountain Lodge in Whitefish, Montana.

For more information about Pac-West and its activities contact Vickie Lester, CAE, executive director, Pacific-West Fastener Association, 10842 Noel Street #107, Los Alamitos, CA 90720, 714-484-4747, fax 562-684-0695, e-mail vlester@pac-west.org, www.pac-west.org.





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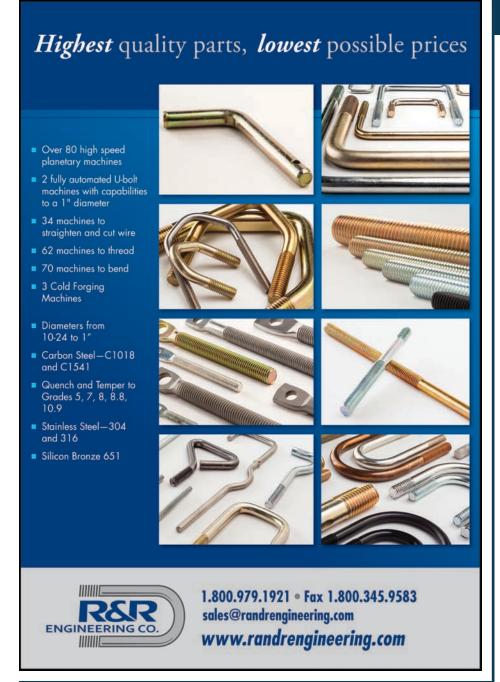
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distributor**news**

In an effort to focus on specialty threaded products, All America **Threaded Products, Inc.** announced the sale of its large-volume, commodity threaded rod business based in Indianapolis, IN to Vulcan Threaded Products, Inc., a division of Steel Dynamics, Inc. AATP will continue to operate All America Threaded Products Divisions in Lancaster, PA and Denver, CO and will primarily focus on producing and selling specialty threaded products out of those locations. Vulcan Threaded Products, Inc. is a well-established company with an excellent reputation, and AATP feels confident they will do an outstanding job servicing customers and fulfilling their large-volume commodity threaded rod needs going forward.

"The sale of our large volume low-carbon commodity threaded rod business allows our team to focus on developing our line of specialty business allows our team to focus on developing our line of specialty threaded products." said Casev Broderick. President AATP. "We are committed to our quest of providing an excellent buying experience with high-quality threaded products and flexible solutions adapted to meet customer needs."

Since 1994. **AATP** domestically manufactures made-to-order threaded products and tailors their business to create an efficient buying experience for customers with quick quote and order turnaround, custom manufacturing capabilities, a variety of stocking options and custom packaging. Economies of scale created by expansion through acquisition have allowed them to become a major player in the threaded products industry.

With the sale of the commodity business, the company is concentrated on maintaining and growing sales with customers that purchase Studs, Anchor Bolts, U-Bolts and Specials, while continuing to supply plain and plated low-carbon threaded rod in small quantities

For more information. contact All America Threaded Products Inc. at 4661 Monaco Street, Denver, CO 80216. Tel: 1-800-354-3330, Email: info@aatprod.com or visit www.aatprod.com.

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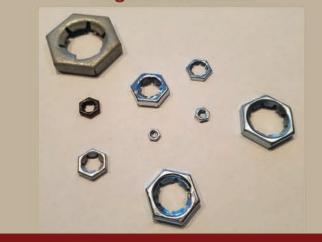




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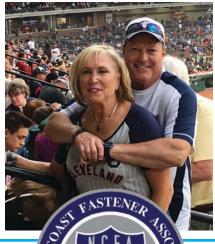
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NCFA NIGHT AT THE BALLPARK by Marty Nolan



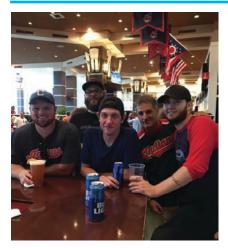




Over 100 NCFA members trekked down to Progressive Field to watch the Cleveland Indians defeat the New York Yankees on Thursday, August 3. In addition to the many Cleveland Indians faithful fans, the NCFA welcomed guests from Texas, Illinois and Michigan and elsewhere. This yearly sojourn down to the ballpark has become a

favorite of NCFA members and has turned into a great networking event. And it is always enjoyable when your team beats up on the Yankees!!

For more information regarding the NCFA, please contact the NCFA Office at 440/975-9503, Lgraham@ ncfaonline.com or www.ncfaonline.com.







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GREAT QUALITY SUPPORTED BY RIGOROUS TESTING & CERTIFICATION

All fasteners are NOT created equal, especially in today's global market where the propensity for counterfeit product seems to be taking center stage more and more. This is easily evidenced from recent findings by the National Highway Traffic Safety Administration's Office of Defects. They compiled a list of suspect fasteners in an effort to eliminate the use of substandard bolts by vehicle and component manufacturers. Counterfeit and substandard bolts have been implicated in a number of vehicle accidents resulting in recalls by several heavy truck manufacturers. *(2011 Choice Distribution report). It's incidents like these that have resulted in an increased interest in the certifications and testing of fasteners.

Heeding the call for such rigorous testing is US made ZaGO fasteners, a leader in the Sealing Fastener industry. Standard operating procedure at ZaGO requires every part to be thoroughly tested with documented proof to support it. Documentation is provided in three categories: chain of custody, certifications and test reports. ZaGO can certify compliance with REACH, ROHS and ROHS II which are becoming standard requirements for products sold globally.

When it comes to testing, ZaGO is the only seal fastener company offering pressure testing reports for NASM82496. They also offer third party batch test reports for silicone and fluorosilicone rubber o-rings, tensile and strength reports, full raw material metallurgical testing and chemical analysis, torque testing, salt spray, hydrogen imbrittlement and magnetic fluorescent inspection.

In today's highly competitive and demanding world of manufacturing, OEM's can't take the risk of using inferior fasteners no matter what the product requirements. It's no wonder so many are now turning to ZaGO US-made parts when only the best will do.

BUSINESS FOCUS ARTICLE

ZAGO MANUFACTURING INC

WOMEN IN THE FASTENER INDUSTRY

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A BUSY YEAR SO FAR FOR WOMEN IN THE FASTENER INDUSTRY

HEFASTENER

Women in the Fastener Industry has been busy in 2017, attending several regional events, while also preparing for the 8th Annual WIFI Speakers Series during the National Industrial Fastener & Mill Supply Expo in Las Vegas in October.

WIFI hosted booths at the Mid-West Fastener Association FastenerTech 17' and in Southern California at the Brighton Best Proferred facility. WIFI president Rosa Hearn of Brighton Best International represented WIFI in both events where attendance was brisk.

"It was a whirlwind of events," says Hearn "The WIFI booth and room was buzzing, and it was a great way to connect with women from the Mid-West and Southern California. WIFI is having a extraordinary year and we are excited for the Fastener Show".

WIFI would also like to congratulate our WIFI Book Winners! They have all won free books on our WIFI

Reads Book giveaway. Want to be a winner? Log on to Facebook and comment about your favorite book and vou will automatically be entered in the #WIFIReads Book Giveaway! Congratulations to Nicole from Aquickneck Fasteners, Casey from Windstream Fasteners and Janeen from The Olander Company

WIFI has also introduced "WIFI Wearables!" WIFI members receive a \$5 discount. 100% of the proceeds will be used to promote the advancement of women working in the fastener industry. We also partnered with companies like Proferred.com, Tupperware & ItWorks! where a percentage of the proceeds of the sale will be donated to WIFI. Visit www.fastenerwomen.com as we add more out of the box partners to our donate page.

WIFI member companies are encouraged to list their job postings for free at the fastener women website to increase visibility email admin@fastenerwomen.com to get your job posting listed.

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When it comes to providing unsurpassable sealing for your most valuable equipment, ZaGO is the only way To GO! ZaGO sealing screws, sealing nuts and switch covers provide you with an unbeatable first line of defense against the toughest incursions of liquids, contaminants and pressure. Better still, they are American-made undergoing the most rigorous testing as your assurance that ZaGO components will withstand the harshest conditions.

ZaGO's high quality of manufacturing is only exceeded by their total commitment to meticulous customer service, working side-by-side with distributors serving a wide range of industries including the military, aerospace, electronics, marine, medical and consumer products manufacturers nationwide and internationally. In short, ZaGO can help you make it anywhere in the world!



SEE US AT: The National Industrial Fastener & Mill Supply Expo | Las Vegas, NV Booth #1263 October 17–19, 2017 www.fastenershows.com/



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RELY ON THE EXPERIENCE OF YOUR STOCKING DISTRIBUTOR

It's astonishing the speed at which the global economy can keep up with today's manufacturing demands. At Olander, we talk a lot about how important our inventory is to meet the needs of our customers. But in today's global economy, what does that look like when you can get almost anything in less than a week? We have stories several times a month of how Olander comes through in clutch situations to provide the needed inventory at just the right moment to get the job done.

Recently, we had a sheet metal contractor approach us who was dealing with a highly time sensitive project for one of the largest clean-vehicle manufacturers in the United States. Our customer was working to fulfill the requirement for a new project in their manufacturing process. As a component of the project, they were trying to hand-install a blind rivet and it was slowing down the installation process.

Unfortunately, the automation solution to install this rivet required the use of a rivet presenter that carries a three- to four-month lead time from the manufacturer. Because they know they can rely on Olander, they contacted us for help, and we had the tool in our stock. Without this solution, the sheet metal contractor would not have been able to keep up with the demands of their customer, potentially costing them hundreds of thousands of dollars.

Another customer required a special tool for installing Inconel X750 HeliCoil® inserts. Olander is one of the largest distributors of Stanley® Engineered Fastening HeliCoil® inserts. To best meet the needs of our customers, we stock many of the non-standard HeliCoil®





installation tools. Stanley® relies on distributors, like Olander, to stock non-standard items that often have a three- to four-month lead-time. In this instance, we were happy to hand-deliver the tool out of our inventory to a customer who was in a panic situation.

In today's global economy, the right part for the job isn't always readily available. Many distributors rely on the manufacturer to carry the right products at the right time. If those expectations aren't met, the customer will be waiting a few weeks for stock to arrive from overseas or a few months to manufacture the parts from scratch. Conversely, at Olander, we monitor the needs of our customers and the trends within the industry to maintain the inventory levels needed to meet spikes in demand, rush jobs, and everyday requirements. No matter how much of a bind you are in, Olander has access to a vast inventory to meet your needs.

The Olander Company, Inc. is a privately owned, fullline distributor of commercial and specialty fasteners, precision hardware, electromechanical components, tools, adhesives, and wire management products. Olander has been serving the Silicon Valley for 55 years, reaches customers in all 50 states, and sells to over 45 different countries. Due to the combination of in-depth inventory and technical expertise, Olander works with a variety of industries, including the semiconductor, medical device, aerospace, telecommunications, alternative energy, and robotics industries.

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No matter what you call it, with over 50,000 items available to ship today, we have it.







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2018 SPRING CONFERENCE - MARK THE DATES NOW SO YOU CAN JOIN US! by Nancy Rich



UPCOMING EVENT - 2018 SPRING CONFERENCE

Ross Bridge Golf Resort & Spa April 24th - 26th, 2018 • Birmingham, AL

Our 2018 Spring Conference will be held at Renaissance Ross Bridge Golf Resort & Spa in Birmingham, AL. The conference will include several informative sessions, networking and a Golf Outing at the amazing Ross Bridge golf course, a Robert Trent course. Your presence is requested to make this an even greater event!!

Congratulations to our 2017 Scholarship Winners

\$4,000 Slater Jones Memorial Scholarship*



Caroline Parker sponsored by Vulcan **Threaded Products**

We thank the Slater Jones Family for funding this scholarship, which will continue for the next few years. Their

generosity during a tragic time is amazing.

\$2,500 SEFA Scholarship

Jacob Neugebauer sponsored by Cigar City Fasteners

\$1,500 SEFA Scholarship

David Harrison sponsored by Falcon **Fastening Solutions**





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\$1,500 SEFA Scholarship Laramie Grace Fincher sponsored by Fastener Supply Co.

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Abigail Paskey sponsored by Ken Forging Inc.



\$1,000 Em Webb Memorial **Scholarship**

Brandon Hess sponsored by Millard Wire & Strip Co.

Thank you to our generous scholarship award sponsors who make this possible. Stay tuned as we look forward to next year's awards.

For more information visit www.thesefa.com.







FASTENER FAIR EXHIBIT SALES STRONG FOR UPCOMING FASTENER FAIR USA from page 28



Research Report

As part of Fastener Fair USA's commitment to deliver top-notch education to the industry, the show is currently offering a free research report on its website offering an in-depth look at Mexico's Aerospace and Automotive Industries. The report includes:

- an overview of Mexico as a quintessential manufacturing hub,
- now the aerospace industry is thriving in Mexico despite global weakness,
- m how the automotive industry is bolstering its competitiveness to reach 2020 targets and
- ¤ tips on doing business in Mexico.

The report can be found at fasternerfair.com/usa.

Call For Speakers

Fastener Fair USA is inviting industry professionals to submit proposals to participate in the educational sessions scheduled for the show. The goal of these daily educational sessions will be to share industry developments and solutions applicable to the show's core attendees fastener and fixing end-users, distributors and wholesalers.

To be considered, potential speakers can submit their topic and brief summary using the Speaker Submission form on the Fastener Fair USA website. The deadline is October 15, 2017. Visit the site to learn more.

Meeting Market Demand

The Fastener Fair name is recognized around the world as the leading exhibition in industrial fastener and fixing technology, and has built a strong following with exhibitors and attendees alike. Mack Brooks Exhibitions owns and organizes eight Fastener Fairs globally as well as the wellrespected Fastener + Fixing magazine. When looking at introducing Fastener Fair to the U.S. market, Mack Brooks focused on two main objectives - meeting the needs of a growing market place and providing a platform for the entire fastener supply chain.

The U.S. market for industrial fasteners continues to be strong even as the surge in demand slows following the recovery-fueled boom from 2010-2015, according to a study on Industrial Fasteners by The Freedonia Group, published in May 2016.

Overall, forecasts for GDP growth remain steady through 2020, and industrial manufacturing within the U.S. continues to be strong. According to that same study, the U.S. market for industrial fasteners is expected to increase 2.6 percent per year to \$15.2 billion in 2020. Demand for fasteners is expected to be higher in the construction and aerospace markets.

U.S. manufacturers therefore have a need to discover the latest in fastener, fixing and joining solutions for their product design initiatives.

Fastener Fair is the right platform for these manufacturers to find the technology they are looking for. The exhibition provides sales, marketing and networking opportunities for the full fastener supply chain - including OEMs, distributors, wholesalers, suppliers, design engineers and purchasers. It's a model that is new to the U.S. market, but one that has been successful for Mack Brooks around the world for many years.

"The U.S. manufacturing community is expanding and is optimistic about future economic growth," said Melissa Magestro, Executive Vice President of Mack Brook Exhibitions, Inc., the organizers of the Fastener Fair shows worldwide. "Industrial fastener and joining technology is a critical component to most manufacturing operations and we are pleased to be providing the platform for OEM's to meet with engineers and distributors in a central location."

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Fall River Manufacturing has been dedicated to the Stainless Steel and Non-Ferrous fastener market since their inception in 1984. Still privately owned and located in Fall River, Massachusetts, the company is sticking to its original belief that there is a place in this market for a value-added domestic supplier.

In an ever changing market with a tremendous amount of global competition, the company has managed to change with the times and remains healthy and vibrant. Now the company is looking to the future with the addition of new equipment and a big push on hiring and training skilled operators.

According to David Monti, the Executive VP and General Manager, "although our product has become

more specialized, we still focus our business on adding value by providing quality products and exceptional service for our customers."

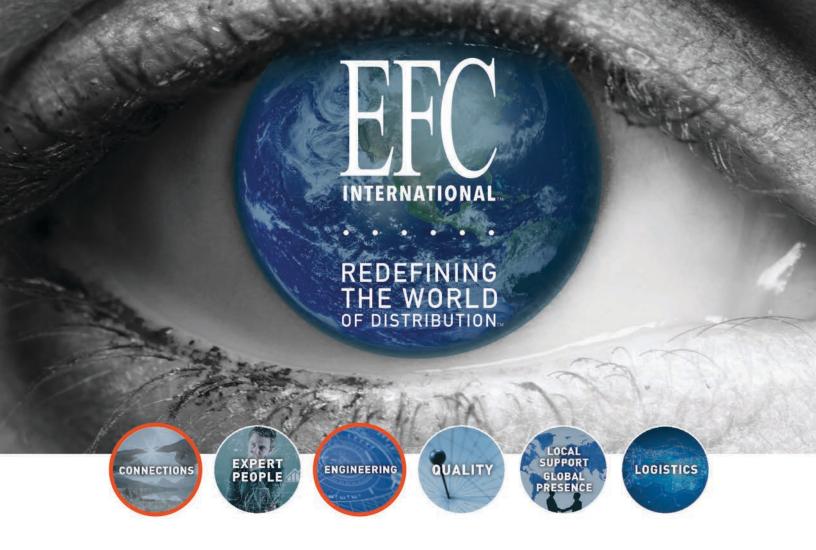
The company has expanded its product offering to include Mil Spec fasteners, with all the necessary certifications, as well as domestic stainless steel hex nuts. Recently, Fall River has made a sizeable investment in new bolt making equipment that has taken their size range all the way up to $7/8 \times 8$ " bolts.

The company philosophy is still the same, but the goal is to partner with our customers while leveraging our investments in equipment and talented people in an effort to continue our growth and take the company to the next level.

BUSINESS FOCUS ARTICLE

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distributor news

The Gilchrist Foundation has awarded four scholarships from the 2017 applicants. Congratulations to the recipients. We wish them well and are pleased to assist them with their education.

They are as follows and their sponsoring companies;

Abigail Paskey Ken Forging

(via The Southeastern Fastener Association) Madelyn Prodoehl Valley Fastener Group Inc. Courtney Hayman EMCO Engineered Inc

The final award will be given to an applicant from the Mid-West Fastener Association when they meet in November.

Robbie and Gina Gilchrist established the Gilchrist Foundation Fastener Scholarship in 2000. Their goal was to return something to an industry that was very good and supportive to them. The Gilchrist Foundation invites any person wanting to further their education to apply for the scholarships. Applicants can be full time or part time students working in the industry or children of working fastener people. The Foundation has awarded 57 scholarships and over \$70,000 since the beginning!

For additional information visit the foundation web site at www.gilchristfoundation.com.

distributor**news**

United Fasteners & Hardware Inc., a Florida based company is excited to announce our new stocking lines.

Starting June 30 2017, we will be stocking inch series Nylon Insert Locknuts, Kep Nuts and Cage Nuts in our Longwood FL location. UFH already has stocking lines of self clinching fasteners including studs, nuts and standoffs and will be looking for other lines to add in the future.

All items are stocked in Zinc Clear (RoHS compliant) and can ship same day if ordered by 3pm the latest.

For more information contact Billy Willier at United Fasteners & Hardware Inc at 1355 Bennett Dr Ste 269 Longwood, FL 32750. Tel: 407-851-7431, Fax: 407-851-7432, Email: bwillier@ cfl.rr.com or visit them online at www.ufh-inc.com.





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Lippincott Supply established in 1948 by Roger Lippincott is located in Vallejo California, a North San Francisco Bay area city. The location lends itself well for importing as it is close to Oakland and San Francisco ports, allowing easy access for container transport. We carry many items in plain, zinc and hot dipped galvanized.

The company began importing fasteners in the early 1980's and with a Product line of over 22,000 items has expanded our lines of imported fasteners to specialize in the following:

Example 2 by Ex

- ¤ Hex bolts to 1 x 48"
- Carriage screws to 1 x 24"
- Malleable iron washers
- Square & Rectangular Plate washers
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BENGT BLENDULF HOLDING OUR WORLD TOGETHER from page 8

If welding is well performed it can certainly be considered a very reliable joining, also at some elevated working temperatures (below critical levels like tempering, annealing, etc.).

Adhesives

They can be used for the joining of many different kinds of materials like metals, papers, textiles, plastic, wood and many combinations of these materials. There are many types of adhesives available on the market and it is important for the designer to choose a product both for strength and effective application. Surface preparation is, of course, crucial for successful joining with adhesives. The automotive manufacturers often use a combination of adhesives and folding of sheet metal parts to assemble doors, trunk lids and hoods. By using an assembly line equipped with induction heating elements for quick curing of the adhesive, a high production speed can be achieved. In the aerospace industry many composite parts like wing elements, stabilizers, etc., are actually "glued" with great success.

The shear strength of an adhesive joint can be as high as a spot welded one. The downside for adhesives could be the working temperatures for the joint. Most glued joints have the maximum strength at room temperature. Lower or higher temperatures will usually affect the strength of adhesives in a negative way.

Low Service Level

We can also mechanically join components and be able to take the assembly apart with some extra effort, even if it was not intended to be that way. If we build a house with a wooden frame and with panels and siding also of wood, chances are that nailing will be a prime option. A nailed joint can be taken apart by using a crowbar or other type of nail-puller, but will not reattach as easy if that wood cracks or there is other damage from

the crowbar. Nailed joints in a house could also be weak structural points in areas where there are high wind loads from tornadoes or hurricanes. Research in this field has resulted in new types of nails with much improved pull-out resistance.

Since metals expand and contract due to an increase or decrease in temperature, we can also use this thermal behavior to fasten one part to another. A collar, or bearing, can be crimped onto a shaft/axle be heating them up and slid them onto the shaft. When the heated parts cool down they will crimp and form a slip-resistant joint with the shaft/axle. In the old days of the stage coaches, the steel ring around the wagon wheel was heated in a forge and allowed to crimp (when cooled) to a tight fit around the wooden wheel.

Riveting is another, very common, "semi-permanent" joining method. Older ships, bridges and boilers were assembled by using hot-riveting, a labor intensive and relatively slow process. Since the rivets where red-hot when put through the holed and the stick-through end being deformed (upset) to form a second head, the cooling down would generate some amount of tension or clamping. But the amount of tension so created could never be accurately predicted. Rivet materials also must be relatively soft for obvious reasons and cannot take any higher tension loads. Most riveted joints are, therefore, designed to take up shear and transverse loads.

More modern rivets include semi-tubular, full-tubular, split types, which all can be assembled using automated production equipment. Again, there is not real useful tension force developed and joint design with these products should be primarily in shear/transverse loading. Blind Rivets constitute a very large volume of fasteners used in many types of appliances and other products using typically thin sheets of metal or combinations with other materials. For brittle or softer materials a back-up washer may be needed at the upset end.



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- Extensive inventory of STI taps, drills & installation tools
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- · Flush, flanged & reverse slot designs
- Unified: 0-80 to 3/8-16; Metric: M3 to M6

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Hex Drive

· Inexpensive solution for soft woods



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JOE DYSART COOL NEW VIDEO MARKETING TOOLS FOR FASTENER DISTRIBUTORS from page 12

" VideoScribe (\$12/month) (www.videoscribe.co). Instead of spending hours trying to animate a still image you have, Videoscribe does all the animating for you. Indeed, any image you place on its VideoScribe's canvas is instantly animated. And you can finish your video project with other tools in Videoscribe's arsenal, including voice-over recording, soundtracks, and calls-to-action elements.

m Microsoft Video Indexer (free) (www.azure. microsoft.com/en-us/blog/introducing-video-indexer-a-

cloud-service-to-unlock-insightsfrom-your-videos). A work-inprogress, Video Indexer is designed to automatically analyze your video library, and make it instantly searchable.

With Video Indexer, fastener distributors can use a few keywords to find videos in your video library of certain words spoken in a video, images of a certain person, images of two people who have appeared together, etc.

The analytics are not perfect yet. And you'll need a IT person to get it working for you. But this is a tool - part of Microsoft Cognitive Services (www.azure.

microsoft.com/en-us/services/cognitive-services) - well worth monitoring.

GoAnimate (starts at \$39/month) (www.goanimate. com). This is a perfect program for fastener distribution marketers looking to tell a story with animated characters. Enabling you to create animated videos with simple dragand-drop tools (think colorforms on steroids), GoAnimate, the program can automatically sync narration to go along with the animated characters you pick for your video.

GoAnimate also has access to tens of thousands of animatable images that can be used in hundreds of industries and occupations. And it also offers you the ability to import your own audio, image and video. For an in-depth look on how the program works, check out Go Animate's YouTube Tutorials (www.youtube.com/user/ GoAnimate).

Similar animation products include: **PowToon** (www.powtoon.com), **Animaker** (www.animaker.com), **Animatron** (www.animatron.com), Moovly (www.moovly. com), Renderforest (www.renderforest.com), Google **Web Designer** (www.google.com/webdesigner) and **Explee** (www.explee.com).

StoriesAds.com (contact for pricing) (www.

storiesads.com). If you're having trouble getting videos up on Instagram, StoriesAds.com can It's specifically designed help. to make producing videos for distribution on Instagram a snap, and is equipped with easy-to-use drag-and-drop tools.

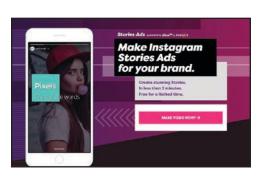
¤ Avid Media Composer First (free) (www.avid.com). Available June 2017, AMC First is the lite version of the already existing - and extremely high powered video editor - Avid Media Composer. It's a tool regularly used by TV shows and other video producers in Hollywood.

The lite version is still plenty powerful, featuring four video

tracks fastener distributors can play with, along with eight audio tracks, and a host of built-in visual effects, transitions, color correction presets and titling templates

Essentially, the lite version is designed to enable you to quickly cut together layers of video, dialog, music and sound effects to produce captivating, professional-quality video content.

"I've worked with other tools, but Avid's model is the most efficient by far," says Stuart Bass, a video editor at "The Office," "Arrested Development," and other TV shows. "Learning Avid's industry-standard tools has been essential in making me the successful editor that I am today."

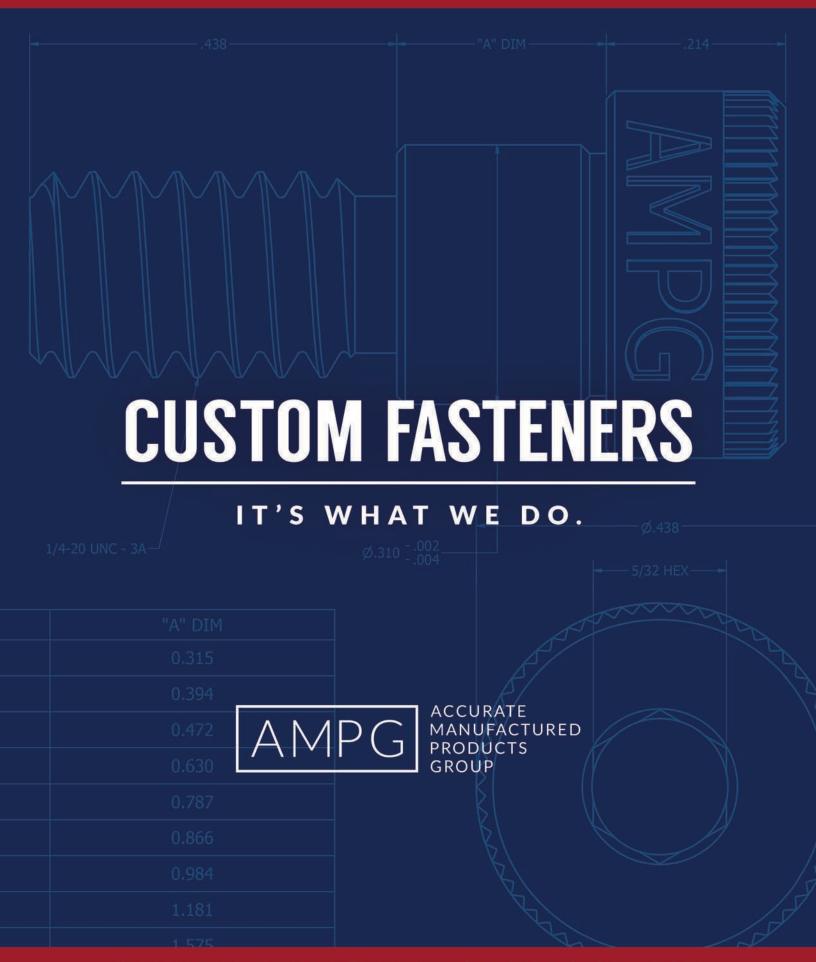


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CONTINUED ON PAGE 180



LAURENCE CLAUS WHY FASTENERS FAIL PART 2 - OVERLOAD, FATIGUE AND CREEP from page 14

This accident serves as a poignant illustration of what happens when a fastener is unwittingly overloaded because users naïvely expect them to perform beyond their capabilities. Unfortunately this underappreciation of the critical function that fasteners are being asked to perform is an all too often event, although, fortunately, most do not end in as tragic a fashion as the Senior Road Tower collapse.

In Part 2 of this series on Why Fasteners Fail, we will take a look at overload, fatigue and creep failures. These can all be characterized as mechanical failures and are generally preventable when care is taken by the designer to build-in a sufficient safety factor and risk mitigation, and by the user to apply proper tightening techniques.

Overload

When an engineer talks about stresses or loads, he is referring to the forces that are acting on a system or part. On fasteners, these loads experienced in service, Service Loads, may come from any number of inputs. Take for example, a structural bolt holding together part of the bridge deck support structure. This bolt will carry some of the constant load provided by the weight of the bridge deck above it, but also the fluctuating loads created when a truck bounces over the bridge or a heavy wind buffets the bridge causing it to slightly bend and deflect.

When an engineer talks about strength, they are referring to the limits a part or material will have when exposed to a stress or load. In other words, a material's strength is the point at which an applied stress will begin to have an adverse impact. There are many types of strength that can be associated with a fastener although yield strength, tensile strength, and proof strength are the three most common. The yield strength is the point at which the fastener begins to permanently stretch, the tensile strength at which the fastener breaks, and the proof strength a value slightly below yield that provides confidence that the part will meet the proper yield

strength value without actually having to destroy the part.

Overload is an apt word to describe this failure mode. In essence it means that the stresses or loads exerted on the part exceed the part or material's strength limits and it fails. Fasteners can be overloaded in tension, shear, or torsion. In fact, many of us can probably share experiences from tinkering in the garage where we gave the wrench one last tug to get the screw or bolt really tight only to come away with two pieces. In another example, there is a special variety of fastener known as a shear bolt that is specifically designed to overload and break in shear before another, more expensive component is damaged. Snow blowers commonly use this technique to break the auger free from the drive shaft and prevent damage to the drive mechanism should the user suck up a stick, stone, newspaper, or other obstruction that is not snow.

Returning to our discussion of fundamentals in Part 1, one may recall that materials may break in either a ductile or a brittle fashion. Recognizing which of these modes of failure occurs is often important when investigating a failure and attempting to get to the root cause. Overload failures may occur in either a ductile or brittle fashion which is one of the primary clues that a failure analysis will attempt to discover.

Overload may occur for a variety of reasons. One might think that perhaps the most common reason would be the utilization of a lower strength fastener than is required. Naturally, this does happen. As was illustrated by the Senior Road Tower accident; users, engineers, or designers simply fail to appreciate or understand the loads that will be experienced by a part or system. Perhaps more often, though, fastener overload failures are caused by load shifting. Take, for example, a pipe flange that is joined over its periphery with eight bolted joints. Assuming that they are equally spaced around the periphery, each joint will be sharing one-eighth of the load.



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During good economy approximately 50% of inserts sold are being used in new machinery, automotive, power generation, etc as part of the design. The reason is that manufacturers design new products with thinner and softer materials to save on cost & reduce the weight of their product. When this is done inserts are used to maintain or increase the strength of the threads being used.

During а bad economy companies repair instead of replace their machines and equipment. When the threads are damaged on this equipment inserts are used to repair them.

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On January 13, 2017,

LFM Capital LLC **EDSCO** purchased

Fasteners LLC ("EDSCO"). Founded in 1985 and headquartered in Denton, Texas, EDSCO is a manufacturer of foundation anchor bolts and cages for critical infrastructure applications. The Company's anchoring systems are predominantly embedded in a concrete foundation upon which a large steel structure such as a power transmission pole, cell phone tower, pedestrian bridge pole or large sign structure pole can be securely attached. In addition to the flagship operation in Denton, Texas, EDSCO maintains fabrication / warehouse facilities in Harrisburg, North Carolina and Spanish Fork, Utah. Founded in 2012 and located in Nashville, Tennessee, LFM Capital is a lower middle market private equity firm with \$110 million of committed capital under management. The seller of EDSCO was Validor Capital LLC, a Boca Raton, Florida-based private equity firm.

Purchase price: not available



January 24. 2017, **EJOT Holding**

GmbH & Co. KG ("EJOT") purchased **Sormat Oy.** Founded in 1970 and headquartered in Rusko, Finland, Sormat manufactures heavy load anchors and related accessories used primarily for concrete, brick and stone applications. A privately-owned company, Sormat employs more than 80 people and its branded products are sold worldwide in more than 40 countries. Founded in 1922 and headquartered in Bad Berleburg, Germany, EJOT manufactures a broad range of externally-threaded fasteners for the European automotive, general industrial and construction markets. The company's diverse, highly-engineered and proprietary fastener products are used in metal, wood and plastic applications. A privatelyowned company, EJOT operates 32 subsidiaries on every continent, employs more than 3,000 people worldwide and generated net sales of approximately EURO450 million in calendar 2016. Purchase price: not available Purchase price: not available



On January 24, 2017, SouthernCarlson **Inc.** purchased **Air**

King Fastening Systems Inc. ("Air King"). Founded in 1995 in Circle Pines, MN (north of Minneapolis), Air King is a distributor of fasteners, fastening power tools and general construction supplies for the residential and commercial construction markets. A privately-owned company, Air King carries numerous brands including Duo-Fast, Bostitch, Hitachi, Paslode, Ouik Drive and Simpson Strong-Tie. SouthernCarlson was formed in November 2014 with the merger of Southern Fastening Systems Inc. and Carlson Systems Holdings Inc. SouthernCarlson is a super-regional distributor of fasteners, power tools, packaging equipment & supplies and construction supplies & consumables. The company is headquartered in Omaha, NE, employs more than 900 people and operates more than 150 locations across the US. SouthernCarlson is a portfolio company of Kelso & Company, a New York City-based private equity firm with more than \$11 billion of assets under management.

Purchase price: not available



We have answers.

On February 6, 2017, Motor City Fastener Inc. ("Motor City") purchased **EMCO Inc.** Founded in 1954 in Charlotte, NC, EMCO is a distributor of electrical, mechanical,

automation and fluid power products to companies that design, manufacture and repair/upgrade production machinery. A privately-owned company, EMCO provides customers with value-added services including vendormanaged inventory, consignment and kitting programs, along with engineering and technical support. Founded in 1968 and headquartered in Hazel Park, MI, Motor City is a value-added distributor of fasteners and Class C parts, supplying the automotive, trucking, defense and general industrial markets. Motor City's supply chain management services include bin-stocking with scale/weight-based automatic electronic ordering and programed vending machines - marketed as the CribBoss™ brand. Following the transaction closing, the combined companies were renamed Motor City Industrial LLC. Motor City Industrial is a portfolio company of Kian Capital Partners LLC, a Charlotte, NC-based private equity firm and Oakland Standard Co., a Birmingham, MI-based private equity firm. Purchase price: not available



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GUY AVELLON WHAT FASTENER DISTRIBUTORS NEED TO KNOW ABOUT WASHERS from page 26

The inside diameter of the USS flat washer is between 5-7% larger on average, than the SAE washer.

The common thought was to pair the USS flat washer with the coarse (USS) threaded bolt and the SAE flat washer with the fine thread (SAE) bolt. This is not always the best scenario to follow, especially when using higher strength fasteners such as Grade 8 (10.9) and even Grade 5 (8.8), as this practice could ultimately lead to failures in high strength joints if the inside diameter is too large to handle the service loads and the washer material is not correct for the application.

Material Strength

For steel flat washers, there are two choices; plain or hardened. Flat washers are not designated by grades, per se, with the exception of structural washers under the ASTM (American Society for Testing and Materials) Standard F436.

Many commercially available flat washers are 'plain', which means they are made from cold rolled low carbon steel and are fully annealed and dead soft. The hardened flat washers are made from high carbon steels ranging from 1038 to 1060 and are heat treated to 38-45 HRC. These hardened flat washers may be identified by retailers and distributors as 'Grade 8' or 'hardened' flat washers.

With the demand of today's heavy loads and critical applications, the correct choice of flat washer is extremely critical. For example, Figure 2 represents two incorrect choices: the style of flat washer and the material.



FIGURE 2

In order for the flat washers to display such indentations, the washer material must be soft enough to allow the embedment of the hex head. Both flat washers above were made from plain carbon steel. These plain carbon steel flat washers are soft when compared to the hardness and loads expected of a Grade 5 or 8 fastener.

So soft, that the hexagon heads of the bolt embedded themselves into the washers.

The inside diameter of the USS flat washer on the left is so large that it does not display the full hexagon shape of the bolt head. Therefore, the bolt did not receive full support for the applied loads. The SAE flat washer does exhibit the full hexagon shape of the bolt head, indicating full support of the bolt.



FIGURE 3

Figure 3 illustrates another 'plain' soft washer with indentations made from the nut while tightening during assembly. It doesn't matter if the washers are under the bolt head or the nut, the fastener will compress into these flat washers.

Does this make a difference? Definitely!

Applying Hooke's Law to a fastener, which is Stress = E (elongation) x Strain, there is a direct relationship between the amount of stress (clamping force) and how much strain (bolt stretch) the fastener experiences. Conversely, if elongation is lost from embedment into a clamped material, clamping force will be lost.

Simply stated; for each one-thousandth of an inch of bolt relaxation, per inch of loaded length (grip), the amount of 30,000 pounds per-square inch of clamping force will be lost. This alone will account for the loss of at least one grade of bolt strength.

Hardened Washers

The only other alternative is to use through-hardened heat-treated washers. Since most flat washers are not marked, it is common to purchase the least expensive flat washer and end up with a 'plain' washer in a high strength joint. Even after the initial embedment into the plain washer, subsequent service loads from vibration or impact loads, will cause the bolt head and / or nut to further compress into the washer and lose more clamping force in application service.



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Since 1979, GOEBEL has been an internationally active family business, specializing in the design and production of top quality joining elements. We are an environmentally responsible leading manufacturer of fasteners, tools, and sealing products. We take pride in our commitment to 100% customer satisfaction and

dedication to support the needs of our distributors. GOEBEL offers individualized customer service, prompt & punctual delivery times, in addition to all-inclusive aftersales service.

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BUSINESS FOCUS ARTICLE



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distributor news

Tim Malone of **Spring Bolt** and Nut Manufacturing has stepped down as President. Tim has been invaluable to the fastener industry for over 38 years, holding executive level positions at Bolt Manufacturing, Walker Bolt Manufacturing, and Spring Bolt and Nut Manufacturing.

In 2001, Tim began a partnership with Richard Sivley and Spring Bolt and Nut Manufacturing was formed. Since 2001, Spring Bolt has grown from a 4,500 sq. ft. manufacturing facility with 4 employees and just a handful of production machines to 25,000 sq. ft. manufacturing facility, 15 employees, and over 100 production machines. Spring Bolt specializes in quick turnaround high quality critical application fasteners.

The Spring Bolt and Nut Manufacturing team would like to give thanks to Tim, not only for his 16 years of service but also for all of the knowledge he has shared and instilled in the minds of many fastener professionals. We wish him and his family all the best during retirement.

Tim Malone's partner Richard Sivley will be taking the leadership reins for Spring Bolt and Nut Manufacturing, keeping his current well-earned title of Senior Havoc Manager.

information For more contact Spring Bolt and Nut Manufacturing at 3280 Wheat St, Houston, TX 77086. Tel: 281-448-4440, Fax: 281-448-4492 or visit them online at www.springboltandnut.com.



FASTENER FAIR EXHIBIT SALES STRONG FOR UPCOMING FASTENER FAIR USA from page 114

Why Attend Fastener Fair USA?

Fastener Fair USA 2018 anticipates being the meeting place for fastener professionals, conveniently located in the heart of the Midwest manufacturing region. So far, feedback from potential exhibitors and attendees show excitement around these show features.

The Latest Technology & Solutions All in One Place The show organizers want to make it easy for attendees to discover and connect with manufacturers of industrial fastener, fixing, and joining solutions, leading to collaborations to solve their product design business challenges. No matter where you are in the supply chain, you'll appreciate seeing the latest technologies, innovations, and solutions for your business all in one place.

Convenient Location

"We have received so much positive feedback about the convenient location of the show," said Jessica Boweak, Exhibition Manager for Fastener Fair USA. "We want to make the event as accessible as possible for automotive, aerospace, construction, and other industrial design engineers and purchasers, so Cleveland makes a lot of sense."

Educational Sessions

Fastener Fair USA offers a unique opportunity to get the latest industry information, forecasts, and technical education with keynote sessions and breakouts. Daily educational sessions, led by industry experts will focus on industry developments and solutions applicable to the core visitor segments - fastener and fixing end-users, distributors and wholesalers.

"We plan to offer broad ranging educational sessions for all levels of experience, industry focus, and visitor segments," Magestro said. Fastener Training Institute is proud to announce that they will be in Cleveland for the 2018 Fastener Fair show. They will announce more details on their education platform soon.

The OEM market for fasteners and fixings is robust

and their needs are unique so the event organizers want to make it easy for OEM buyers to discover and connect with the right suppliers. The show will also offers exclusive, technical education sessions specifically for OEM end users and their product design challenges.

Networking

Connecting and collaborating with other professionals in your industry is one of the best parts of face-to-face events, and Mack Brooks recognizes how important networking opportunities are for the fastener and fixing industry. They have recently announced the welcome reception on April 11th will take place at the Rock and Roll Hall of Fame. "This networking party promises to be a great event for manufacturers, distributors and end-users to connect with one another at one of Cleveland's most popular attractions," said Boweak.

Who should attend?

Mechanical engineers, product designers, purchasers and R&D personnel from the following industrial sectors will find value at Fastener Fair USA:

- Automotive
- Aerospace ¤
- Agriculture and construction equipment OEMs
- Home appliances
- Consumer electronics
- **Furniture** ¤
- Wind power ¤
- Oil and gas
- Power transmission/hydraulic/pneumatic
- On-and-off highway equipment





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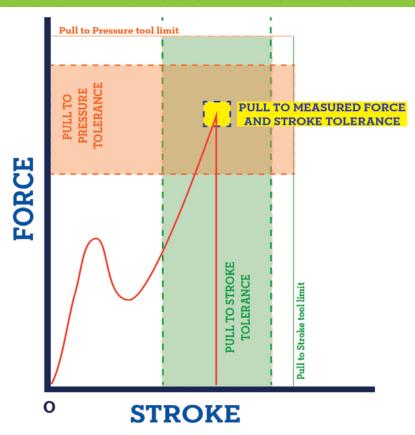


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STEVEN SHERMAN RIVETNUTS: PULL AND PRAY GIVES WAY TO A BETTER SOLUTION from page 30



" Pneudraulic Spin-Pull Tools - Pneudraulic spinpull tools are available in two basic variations based on the way the tool is stopped in the pull direction. **Spin-**Pull to Stroke tools are positively stopped by placing a limit on the backward stroke. In this case, the tool is always pulling at full pressure. The tool works best when it is set for a particular rivetnut size and metal thickness, which requires calipers and trained personnel to define and enforce the setup. With a **Spin-Pull to Pressure** tool, there is no positive stop and the backward stroke is limiting the air pressure via a valve on the tool. Since there is a marginal correlation between the air pressure and the dynamic load, a reduction in air pressure equals a decrease in applied force. That means the tool is essentially starved of air pressure, and hopefully comes to a complete set just before the air pressure is consumed. While this works well with a variety of rivetnuts and metal thicknesses - it's not precise because variables such as air pressure, oil level, hydraulic seal conditions and operator experience can all impact the outcome.

Taking Spin-Pull Technology to the Next Level

The newest method of riveting, the Spin-Pull to Measured Force and Measured Stroke, uses an electric drive motor and 18-volt battery. By removing the pneumatic line, the pull force can be regulated electronically. Sensors powered by the battery measure and control the process precisely. The actual stroke is measured by a linear light sensor and the actual force is measured within 1% of accuracy by a load cell.

In addition to this, force and distance limits can be programmed into the tool by the manufacturing engineer and a memory card can be added to store the force and stroke of each rivetnut installed for future use. If a WiFi card is also added, the pass/fail data can be sent to MIS systems warranty tracking. This electronic solution eliminates the uncertainties of pneudraulic methods.

The result is a robust, repeatable process that delivers greater accuracy for maximizing efficiency as well as minimizing downtime, rejections and claims.

For more information contact regarding the contact of this article, contact the author at:

Industrial Rivet & Fastener Co.

200 Paris Avenue, Northvale, NJ 07647

Tel: 1-800-BUY-RIVET (1-800-289-7483)

Fax: 201-750-1050

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NIFMSE HALL OF FAME AND YOUNG FASTENER PROFESSIONAL AWARD WINNERS ANNOUNCED from page 32

The company has been recognized as one of the nation's best places to work and named one of Inc.'s Fastest Growing Privately Held Companies for the last seven consecutive years.

Bill was chosen as this year's inductee because of his many selfless contributions to the fastener industry with an eye toward global change and competition. He not only serves as a mentor in Advancing Individuals through Mentoring, a program for Young Fastener Professionals, but also served as President of the National Fastener Distributors Association. and is a founding member of the Global Supply Alliance. He was also a key consultant in discussions with various governmental agencies during Congress' deliberation and implementation of the Fastener Quality Act, and served as a delegate for three years to the Industrial Fasteners Institute.

Karalynn Sprouse of Emerald Expositions, the company that organizes the Fastener Show, "What the Fastener Coalition seeks to recognize in the Fastener Hall of Fame are leaders who can translate personal success into industry success. It takes a special kind of leader to contribute to the success of potential competitors for the enhancement of the industry as a whole, but to do so consistently over decades is even more rare. That's why recognition of these professionals is such a worthy effort. We couldn't be more pleased with Bill Derry's induction into this prestigious group of scholars, innovators, leaders, and philanthropists in the fastener industry."

Adam Pratt Named 2017 Young Fastener Professional of the Year by The Fastener Show

The Fastener Show recognizes up-and-coming leaders under 40 years old who enhance industry awareness and promote the fastener industry to the business community. Nominees are reviewed by the Fastener Industry Coalition, comprised of thirteen North American regional and national fastener associations concerned with the distribution, manufacture and importation of fasteners as well as services to the fastener industry. The Young Fastener Professional of the Year Award identifies young visionaries who bring people together, have an unimpeachable record of integrity and respect, and demonstrate innovative leadership skills. This year's winner of the award exemplifies how innovation and business development together can push market change to success.

About The Winner

The Fastener Industry Coalition committee reviewed a large field of exceptional nominees before selecting

Adam Pratt. As President and founder

Sherex Fastening Solutions at age 24, Adam has grown his Buffalo, New York company of seven employees into a massive global manufacturer with 170 employees worldwide, focused on design and manufacture of innovative fastening solutions for automotive, solar, and other major

industries. Under Adam's leadership,

Sherex has developed such innovative products as the patented Riv-Float® and Riv-Float Short® (solutions to the common problem of application misalignment), a full hex product line, and the largest diameter rivet nut product line available on the market today. With revenue now exceeding \$30 million annually, Sherex has been nominated nine times as one of Buffalo's top Fast Track businesses in western New York, and six times for Best Places to Work in Buffalo.

His work in the Western New York area has been instrumental in the creation of Buffalo Manufacturing Works (of which Sherex is a member of the Founding Council), as well as supporting Western New York manufacturers as Chair of the Buffalo Niagara Partnership's Manufacturer's Council.

Adam was chosen as this year's award recipient not only for his personal professional success, but for his outstanding contributions as a local and global citizen. Through Sherex Fastening Solutions, tens of thousands of dollars have been raised through several philanthropic initiatives including the 11 Day Power Play, an attempt to beat the world record for longest continuous hockey game, to raise funds for cancer research, and to Ronald McDonald House Charities. Adam also sponsors a University of Kentucky program designed to assist foster youth pursuing higher education, and sponsors business development through peer-to-peer learning support as Forum Chair for the local chapter of the Entrepreneurs Organization.



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MFDA 2017 SCHOLARSHIP AWARDS

by Nancy Rich

On June 15th the MFDA held their annual scholarship meeting recognizing this year's scholarship recipients. MFDA offers scholarships, annually, to members' children entering college. Congratulations to this year's winners:

Board of Directors Scholarship \$3,000

Halle Trippe, daughter of Ginger Tripp/Fall River Mfg.

\$2,500 Tanzman Family Scholarship

Carlos Sanchez, son of Anibelia Burgos of Fastbolt Corp.

\$2,500 Fastbolt Corp. Scholarship

Andy Vu, son of Lam Vu of Brighton Best Int'l

\$1,500 Star Stainless Screw Scholarship

Chelsea Mendoza, daughter of Maria Jimenez of Fastbolt Corp.

\$1,500 Metric & Multistandard Components **Scholarship**

Ryan-James Bailey, son of Heather Burdick of Century **Fasteners**

\$1,000 ND Industries Scholarship

Sydney Jaes, daughter of Jason James of Fastbolt Corp.

\$1,000 Bob Rundle Memorial Scholarship

Ania Burgos, daughter of Miguel Burgos of Captive **Fasteners**

\$750 MFDA Hall of Fame Scholarship

Shae Devito, daughter of Frank Devito of Solution Industries

\$750 MFDA Scholarship

Sarah Shannon, daughter of Anthony Shannon of Tower **Fasteners**









2017 SCHOLARSHIP RECIPIENTS: (TOP LEFT) CHELSEA MENDOZA. (TOP RIGHT) RYAN-JAMES BAILEY, (BOTTOM LEFT) ANIA BURGOS **AND (BOTTOM RIGHT) SHAE DEVITO**

New Members

The MFDA is pleased to add these companies to their membership:

Bodycote, Hillsborough, NJ

Raw Products Corp., Sayreville, NJ

Rick Rudolph Associates LLC, Melrose, MA

2017 Events Calendar

October 26th Social Outing

December 7th Toys for Tots Holiday Party (









Helpful Software

A better situation is to have software that is more tailored to the company needs. Systems like these have more extensive inventory management capabilities and in addition to providing accounting functions, they help management run the business more efficiently. As the systems get older, if they are not kept up to date, they tend to fall behind what is currently expected of systems. Many customers today are demanding extensive analysis and reporting of their activities with their vendors. The information is nearly as important as the product delivery. Older systems that do not provide flexibility for getting information out of them become a liability over time.

Useless Software

Useless software is in class by itself. This is software that is attempting to be very sophisticated and comprehensive. The company is seduced into purchasing it by all the "bells and whistles" that it offers, but they neglect to analyze its usefulness. Once the system is installed and implementation begins, the company runs into many roadblocks and discovers that some claimed capabilities either don't exist or are so cumbersome to use that they cannot be put into operation.



In the worst case scenario, the relationship with the software company deteriorates and a finger-pointing contest begins. The company blames the software for the problems while software company insists that the company is not being run correctly. In the meantime the bills keep rolling in from the software company and everything that needs to be contoured, adjusted or changed becomes a billable item. Finally, five years later when all of the bugs are out of it, the company finds that they are on a software version that is no longer upgradable without reinvesting in all of the changes that they had made. Installations like these can put a company out of business.

Priceless Software

The ideal situation when implementing new software is to find software that closely adheres to the company's needs. This doesn't mean that the software has to do things the old way, it just means that the system must accomplish the same tasks efficiently and without becoming overly complicated to use. Ideally, the software will be fully supported and upgraded as part of the agreement with the software company.

Support is a key element to running a successful software system and it is a priceless advantage if it is available. In the finest installations, the fastener distributor and their software vendor truly become partners in the development and implementation of the system. New ideas that come along are implemented and passed on to the users as part of the maintenance.

When a new idea comes along, the individual client should have the opportunity to use the new method or continue with the way they're using the software. At the same time this should not affect their ability to accept the next upgrade to the software. This software not only makes jobs easier, it eliminates the need to perform many tasks because they are done automatically by the software. The software is fully integrated so that there is no duplication of effort to complete the company's daily tasks.

How Does Your Software Rate?

It's good to periodically evaluate where you are when it comes to technology. Everyone is at a different point in the continuum that I have listed above. Anything that you can do to move toward priceless software will pay huge dividends to your company and your quality of life.

distributor**news**

Lightning Bolt & Supply, Inc. (Thunder Threads), a Louisiana based fastener manufacturer and VMI distributor is proud to announce it's revolutionary "Touch-P" (Touch & Print) software, which allows users, regardless of their skill level, to print barcode labels on-site by simply touching items in a digital catalog.



This new technology has now made printing barcode labels, commonly found on bolt/fitting bins, SUPER EASY and FAST... Even those that don't understand part numbers (i.e. customers, sales reps) can easily print barcode labels.

This revolutionary tool allows anyone that can flip a digital catalog to be able to print barcode labels. All you do is touch the item and the label prints. No printer? No problem... The labels can be printed remotely and mailed.

Industrial distributors understand that once you have a barcode label at the point of use. replenishment is simple. In fact, we even have a complementary app that is designed to read bar-code labels and create a quote/order in your Point of Sale system.

We are seeking companies that are interested in integrating this technology into their business model.

For more information contact Wesley Valverde at Lightning Bolt & Supply Inc.by phone: 225-272-6200, Email: wesley@lightningboltandsupply.com or online at www.lightningboltandsupply.com.





CARVER FACT CENTER Q&A WITH CARMEN VERTULLO from page 36

FTI has also sent us on training missions to such exotic locations as Naval Reactors at the Washington Navy Yard, Pantex Nuclear Weapons facility at Amarillo Texas, and the US Army Aviation Propulsion Engineering Directorate at Redstone Arsenal in Alabama. We serve end users and supplier with custom training programs at the Carver FACT Center and on-site at the suppliers location or in the manufacturing plant or job site. One the most powerful and effective value-added services a supplier can offer is to bring fastener training and solutions to their customers. They can do this quickly and without risk when they offer it through the Carver FACT Center.

What kinds of testing can you do?

On any given day we are engaged in structural bolt testing - commonly called "skidmore testing". This includes assembly lot pre-installation verification testing and rotational capacity testing. We do this here and on the job site. We are always doing some kind of torque-tenison, or K-Factor determination testing. Our hardness testers are always busy. We conduct dimensional inspections of all kinds of parts – not just fasteners. Failure investigation and fastener problem solving are high on the list too. One of our most popular services is the Carver Consulting Technical Opinion. After the investigation or tests are complete we write a comprehensive report that the client can use to make their case to their supplier or customer regarding the part or the proposed solution.

When there is a test we cannot do we have strategic partnerships with accredited test labs. One of our most important partners is Rob LaPointe at The LAB, a fastener testing laboratory in Rancho Cucamonga, California. We collaborate to get the testing accomplished that our clients need. Sometimes this means we design a test or a fixture here at the Carver Fact Center and send it to The LAB for the actual testing. The LAB also has chemical analysis, metallographic and other more sophisticated services that we do not have at the Carver FACT Center.

Tell us more about Strategic Partnerships.

When I started the Carver FACT Center I recognized that we did not have some of the tools and equipment needed to provide the level of client services necessary



HYDROGEN EMBRITTLEMENT TRAINING PROGRAM DEVELOPED AND **HOSTED BY THE CARVER FACT CENTER**

for developing the kinds of solutions the industry wanted. That led to partnering with some equipment providers. Our Equipment Partners station test and inspection equipment at the FACT Center. We use that equipment to train their customers, promote their products, and for fastener testing and development. We then established other categories of strategic partnerships. These include test labs, other fastener experts and consultants, academia, and even some of our clients. Between our own facility and this well-developed network of technical resources the Carver FACT Center is uniquely equipped to design and engineer fastener solutions for specific needs, provide hands-on technical training and educational seminars on crucial topics in our industry. We consult on a wide variety of challenging fastener-related problems—including analyzing fastener failures and specialized hands-on training programs.

It sounds like training is definitely a focal point for the Carver FACT Center. What makes your approach unique or particularly effective in that area?

Training is such a critical part of preventing time and money wasting mistakes in specifying, ordering, inspecting, testing, and installing all kinds of fasteners. There's a huge difference between handing someone a manual and actually developing practical understanding, so in addition to educational presentations we focus on providing hands-on learning opportunities whenever possible.

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Crescent Manufacturing is a domestic fastener manufacturer supplying precision fasteners to distributors around the world. Products range in size from 000 to 3/8 inches in diameter or M1 to M10 with lengths up to 3 inches (76 mm) long. Materials include a very wide variety including alloy steel (4037, 8740), aluminum, most stainless steels, including A286 and Monel, carbon steel. brass, phos bronze and several other materials.

Fasteners are manufactured to the strict requirements of military specifications as well as engineered specials and commercial requirements. They currently include 12 different head styles, 12 different drives, and many different threads, including trilobular. Crescent's quality is to the highest Aerospace and Industrial (AS9012 & IS09001) standards.

In today's competitive market, quality, certifications, responsive customer service and timely deliveries are many of the characteristics that put a company one step ahead of its competitors. Since its beginning, Crescent Manufacturing has been striving to provide these elements to ensure our customers continuing success.

Crescent has significantly increased its manufacturing capabilities. Crescent now makes much of its tooling internally which both reduces costs and lead times. Crescent's team can assist with design applications and help transform your machined parts to less costly cold formed products. Through continuous research, development and improvement to Crescent's processes and capabilities. Crescent is able to provide its customers with the best fastener for your application. Our Beta/Beta-Pro line was developed as an alternative to more costly trademarked trilobular parts as an example of this process.

Crescent manufactures and supplies fasteners and miniature screws to many industries through several fastener distributors. These industries include aerospace, military, marine, aeronautics, electronics, automotive, computer technologies, telecommunications, consumer products, industrial products, medical and optical equipment. Crescent's fastener distributors are located on five continents including North America, South America, Europe, Asia, and Australia.

CRESCENT MANUFACTURING

BUSINESS FOCUS ARTICLE



When superior quality is critical and rapid response is a necessity, Crescent is the smart call.

You're up against it — schedule changes by customers, demands for quick quotes and they needed it "yesterday." Who do you call? Crescent. The company you can trust and depend on. We know our product inside out because we only sell fasteners we manufacture — with a range of fastener sizes (now 000-3/8), in various styles and materials. Need standard, military, or specially designed parts by your end users? We have you covered. Our certified AS9100 Quality Program assures you delivery of the quality parts you expect — when you expect them. We also deliver quality with a well-trained, knowledgeable staff — they help solve problems, get answers, deliver fast quotes and provide superior customer service. Since 1960 Crescent has been manufacturing trustcall us at crunch time to see for yourself what we can do - (860) 673-2591 or visit us at www.crescentmanufacturing.com.



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MICHAEL MOWINS MAXIMIZING DRIVER TOOL CONTACT TO OPTIMIZE FASTENER INSTALLATION AND REMOVAL from page 42



THE UNIQUE CURVED GEOMETRY OF THE MORTORQ® SPIRAL DRIVE PROVIDES FULL CONTACT OF THE DRIVER WALL AND RECESS.

There were additional designs along the path of driver tool evolution that attempted to improve the torque capability of the driver tool itself by offsetting the wings of the tool and recess to increase the driver tool strength which ultimately led to the TORO-SET offset cruciform drive system widely used in the aerospace industry. Another design improvement approach was adding features like ribs or abrasive coatings to the driver tip to prevent the driver from coming out of the recess prematurely. These added features on the driver tip improved the locking action between the tool and recess, but they were susceptible to wear, or to becoming filled with plating or contaminants. Similar evolution occurred in the design of sockets for bolt heads. Standard hex sockets engaged the bolt head at the corner of the hex on the bolt head. This caused an area of very high stress at elevated torque levels that often rounded the edge off the hex bolt resulting in damage. Socket designers attempted to solve this by providing a round relief in the corner of the hex socket. This moved the area of contact between the socket and the bolt head to a narrow contact area away from the corner of the hex providing some improvement.

It wasn't until the application of a lobular design to the standard hex shape that a real improvement in contact area occurred. The original hex-lobular design, with its interlocking gear shape, provided increased contact area between the lobes of the recess and the lobes of the driver. This added area increased the amount of torque that could be transmitted because of the lower pressure

loading on the interface between the recess and the driver. Lowering the amount of force applied over a given area meant that the base material of the driver, or recess, saw lower loading for a given square inch of surface area. This meant that there was less likelihood of plastic deformation of the material due to high stress which minimized the chance of recess reaming or driver twisting and fatigue failure. The lobular design improved torque transmission but still needed significant recess depth, or bolt head height, to achieve enough engagement to transfer the torque. The symmetric lobular shape also meant that the maximum applied potential torque was the same in both the installation and removal directions as it had been with the original hex shape.

As various industries adopted new materials and manufacturing methods, the demand for improved fastener drive systems took on greater importance. The aerospace industry had seen real benefits in improved fastener removal when they combined the offset cruciform shape of the TORQ-SET drive system with the locking ribs of the ACR (anti-cam-out rib) system. The asymmetric shape of the TORQ-SET design with the offset wings provided greater removal torque transfer which assured that seized fasteners in the airframe could be removed for maintenance. When this capability was combined with the locking ribs of the ACR system on the bit and in the recess, the removal of the fasteners was greatly improved which maximized the maintainability and in service time of the aircraft by minimizing the costly drill outs that had been common before the new drive system. While the improved system gave better results there was still a need for a better system in the shallow 100° flush head fasteners used to attach skin panels.

The challenge became how to take advantage of the fastener removal capability of an asymmetric drive system and the increased contact area that a lobular design could provide. The result was the original MORTORQ® spiral drive system. This new concept had an asymmetric lobe shape that had unique curved wall geometries that provided full contact area over the length of the driver face and recess wall. This proprietary curve provided up to twice the contact area of a hex lobe shaped drive on the installation wing wall and up to three times the contact area on the removal wall.

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STAFDA'S AUSTIN CONVENTION & TRADE SHOW: UNPRECEDENTED RESPONSE from page 44

- restriction series seri
- pa Following the General Session, the **Trade Show** opens. This is an incredible opportunity for distributors to see the latest innovations. Many exhibitors use the STAFDA Show to introduce products for the following year so the newest and greatest is always on display!

- The Show completely filled three halls in the Austin Convention Center so more exhibit space was added across the street at the Austin Hilton. (Monday, November 13, 12:00 6pm; Tuesday, November 14, 10:30am 4pm)
- **The Closing Party** wraps-up the meeting allowing attendees the chance to enjoy a good meal over more business conversation or tap their toes to musical entertainment. (**Tuesday, November 14, 5 6:30pm**)

There are also spouse/companion programs and tours for those who are coming to Austin to enjoy the city and surrounding area.

STAFDA offers other activities and events as well. Visit www.stafda.org and click on the Annual Convention tab to view the full agenda. Only members may attend. For more information, please contact Catherine Usher, Member Services Director, cusher@stafda.org or 262/784-4774.

SPECIALTY TOOLS & FASTENERS DISTRIBUTORS ASSOCIATION

ROMAN BASI THE PRESIDENT'S EXECUTIVE ORDER 13789 AND ITS FUTURE EFFECT ON THE TAX CODE from page 46

However, Section 199 is highly complex, often frustrating both those businesses that fail to qualify as well as businesses that do qualify but only after navigating a substantial paperwork burden. By cutting the corporate rate to 20 percent, and by cutting the top rate on the active business income of pass-through entities to 25 percent, the Blueprint makes section 199 unnecessary."

This is an extremely popular section of the Internal Revenue Code and is used by a lot of our clients. Not only does it apply to traditional manufacturers it applies to many broadly defined firms that would otherwise not be considered manufacturers. Items such as growers, software firms, and construction and even automotive rebuilders can be considered manufacturers.

Another identifiable issue is the Earned Income Tax credit. The Blueprint states:

"The IRS makes billions of dollars in improper payments through the programs it administers, particularly the Earned Income Tax Credit (EITC). At 24 percent, the EITC has the

highest level of improper payments of any Federal program, with nearly \$15.6 billion in improper payments in fiscal year 2015, nearly double the rate of the next highest program."

Conclusion

This Executive Order and the House Ways and Means Committee's Blueprint means that tax reform will come. This reform will have an impact on transferring businesses across the United States. Many Companies and business owners across the country are on the edge of selling their business and/or retiring and transferring it to the next generation. It is very possible that we will have more favorable tax rates in the near future. With the two primary catalysts of tax reform lining up their proposals in similar methods, and with the White House requesting for simplification of overly burdensome taxes and regulations, there has never been a better time to position your company or your business for its succession to the next generation or for the sale of it on the open market.





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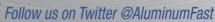
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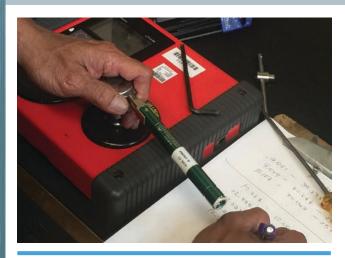
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MOUNTZ INC. DEMYSTIFYING TORQUE: WHAT YOU SHOULD KNOW from page 48



The Importance of Torque Control

The reliability of machine parts subjected to fluctuating loads and stress depends on the fatigue strength of the materials. A threaded fastener, however, relies upon an elastic interaction between the mating components. Its objective is to clamp parts together with a tension greater than any external force trying to separate them. The bolt then remains under almost constant stress and is immune to fatigue. If the initial bolt tension is too low, the fluctuating load in the shank in much greater and it will quickly fail. Reliability, therefore, depends on correct initial tension and is ensured by specifying and controlling the tightening torque.

Torque Tools

Torque is simply defined as a measurement of turning or twisting force applied to an object. Every day, screwdrivers, wrenches, impact tools and even hammers are used to apply torque on assembly lines to create the tension required to clamp bolts, screws and other fasteners firmly together. However, none of these tools can assure that proper tension is being achieved.

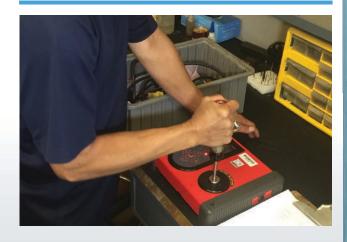
A manufactured product's quality and integrity are completely dependent upon the reliability of fasteners and the elastic interaction between the mating components. The objective is to clamp parts together with a tension greater than any external force trying to separate them. The part then remains under constant stress and is immune to fatigue.

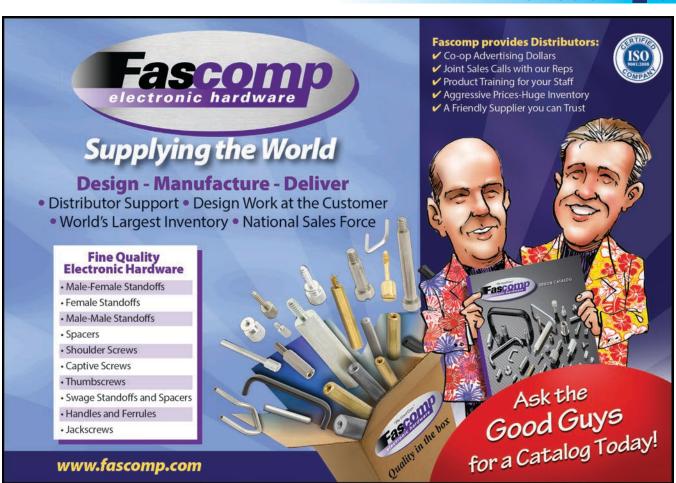
An inadequately torqued fastener can vibrate or work loose; conversely, if the tension is too high, the fastener can strip its threads. Faced with these options, manufacturers are realizing that torque control could spell the difference between a safe, reliable and economical product and complete disaster.

The precise control of torque is a key to a quality assembly and can ensure that products perform as expected. In many cases, before finished products even reach the market, companies have spent a great deal of time and money for disposal or repair of damaged parts, during assembly, which are the results of improper application of torque. Even worse, if these products (albeit unintentionally) make it to market, manufacturers are faced with customer dissatisfaction when products fall apart due to loose screws or stripped threads.

Manufacturing costs may also be reduced through precise torque control. For instance, Seagate, a manufacturer of computer hard drives, initially utilized Mountz tools to maintain critical assembly tolerances, but realized additional saving when the number of drives that had to be scrapped or reworked, due to over tightening, was reduced.

Product safety and related liability exposure for manufactures can also be dependent on the proper utilization of threaded fasteners. In critical applications where safety is an issue, the proper use of fasteners can decrease the incidence of expensive lawsuits and product recalls.







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CRAFTECH INDUSTRIES PROUD PLASTIC PIONEERS! from page 50







The company also regularly checks production quality with in-process tensile and torque testing as needed.

Today, plastics are employed in such a wide variety of applications that it is impossible to compile a complete list of them. However, Craftech has always had a presence in the aerospace, defense, chemical, semiconductor, construction and marine Industries. The company serves customers all over the world. Craftech's customer service department prides itself on delivering superior, friendly, on-time service. Whether your need is for high volumes of injection molded fasteners, highly engineered plastic parts, or even 18" diameter CPVC U-Bolts to secure duct work in a scrubber stack, Craftech is your source for quality plastic fasteners and custom parts.



NORTH EAST FASTENER NEF'S QUALITY INVESTMENTS PAYING BIG DIVIDENDS from page 10



Current Markets Served

- Commercial
- Military
- Aerospace
- Medical
- **Automotive**

Current Size Range

Inch 00 to 10

Metric M1.2 to M4.5, up to 2 Inches (or 50mm) in length.

Specifications

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Materials Offered

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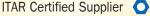
Brass 65/35, 70/30

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NEFDA TABLE TOP SHOW BOSTON, MA - JUNE 19, 2017



The Business Edge™

Sam added, "In 2012 we implemented a new computer system, The Business Edge[™] from Computer Insights. From that time on, we have been able to maximize our customer service because we have all the information at our fingertips. Not only can we see what parts are available, but we also have immediate access to the Certifications that are available with each part. The Certifications automatically go out with the parts each time they are shipped. Additionally, if the customer loses the Certs, a quick call or e-mail will get the Certs replaced immediately. We have instant access to all the Certs for products that have been shipped with complete lot control and traceability."

Inventory Management

Sam also said, "Now that we have implemented The Business Edge[™] we found that we are able to keep much better track of our inventory and usage. The result is that our in-stock percentage of often used products has improved dramatically, while we reduced our overall investment in inventory. The system even has an interface to ILSmart.com (an inventory sourcing network) so that we can more easily find the rarer parts."

A Rich History

Nor-Cal Supply Company was founded by Sam Johnstone, a former Captain in the U.S. Army Air Corps. The company started as a war assets distributor for the War Assets Administration of the federal government and specialized in military parts, equipment and hardware. By the late 1950's, Nor-Cal Supply narrowed its line of distribution to aircraft and aerospace hardware, ended its partnership with the federal government and in 1957 became a California Corporation. The company was first located at several Quonset huts on the north field of Oakland International Airport and moved to its present location, a 15,000-square foot office and warehouse facility in San Leandro CA, in 1962.

Mr. Johnstone continued to lead the company and served as President for the next four decades. In 1999, Sam Anderson, Mr. Johnstone's grandson, joined Nor-Cal Supply full-time. Although Mr. Anderson had worked at



CAPTAIN SAM JOHNSTONE, FAR LEFT, AND CREW WITH **BOB HOPE. ENGLAND. 1943**

the company on and off since he was 10 years old (in the warehouse, pulling stock, sweeping the floors, etc.), it wasn't until he graduated from college that he was brought on full-time. Today, Nor-Cal Supply Company is in its third generation of family ownership being led by Mr. Anderson.

About Sam Johnstone (1919 - 2009)

Mr. Johnstone was a Captain in the U.S. Army Air Corps. (now the U.S. Air Force) from 1941 to 1945. He volunteered for service the day after Pearl Harbor was bombed. Mr. Johnstone was the pilot of a B-17 (Flying Fortress) on 25 (plus one) missions over occupied Europe in WWII. His bombing group was the first replacement crew of WWII and he was awarded the Distinguished Flying Cross and numerous other medals for his service. Mr. Johnstone served as President of Nor-Cal Supply Company until his passing in December 2009.

Facilities

Nor-Cal Supply Company has been serving the world's aerospace and aircraft hardware needs since 1950 as an authorized stocking distributor of AN - MS - NAS - NASM fasteners and Mil-Spec hardware and fittings. We are a self-certified small business and our 15,000-square foot office and warehouse facility is conveniently located next to Oakland International Airport and Interstate 880.



2017, On February 23, **Titanox** Industrie SA ("Titanox") purchased

Boztas Bursa Connection Elements Ltd. ("Boztas Bursa"). Founded in 2013 and located in Bursa Turkey, Boztas Bursa is a distributor of fasteners and Class C parts, specializing in providing customers with advanced supply chain management services. The company supplies numerous automotive OEMs and their Tier suppliers in Turkey, along with manufacturing customers in the electronics. furniture and general industrial markets. Founded in 1975 and located in Bezons, France (outside Paris), Titanox is a distributor of fasteners and assembly hardware, supplying a diverse range of electronics, high technology, medical equipment and general industrial OEMs. The Titanox product range includes: blind rivets & installation tools; weld nuts & studs; welding machines; and inserts for plastic. The privately-owned company's rivet products are marketed under the RIVELIT® brand name. The existing Boztas Bursa management team will remain in place following the transaction closing and the company name will be changed to Titanox Turkey Ltd.

Purchase price: not available



On March 3, 2017, Tioga Pipe Inc. purchased **Mackson Inc.** Founded in 1984 and located in

Rock Hill, South Carolina, Mackson is a distributor of nuclear-certified fasteners, structural steel, weld wire and made-to-print components, supplying the commercial and military nuclear markets. Mackson specializes in difficultto-source fasteners and components and also provides supply chain management services to OEM and MRO nuclear customers. Founded in 1946 and headquartered in Philadelphia, Pennsylvania, Tioga Pipe is a distributor of pipe, fittings, flanges and related products, supplying the power generation, oil refining, gas & chemical and shipbuilding industries. In addition to its Philadelphia warehouse, the company maintains branch warehouses and sales offices in Houston, Texas and Chattanooga, Tennessee. Following the transaction closing, Mackson was renamed Mackson Nuclear LLC and the company will continue to operate from its existing facility in Rock Hill, SC. The seller of Mackson was MetalTek International Inc. of Waukesha, Wisconsin.

Purchase price: not available



March 6. 2017. On **Lindstrom LLC** purchased the assets of the small packaged fastener and

master distribution business (the "Packaged Fastener Division") of **Hodell-Natco Industries Inc.** ("Hodell-Natco"). Founded in 1984 in Cleveland, OH, Hodell-Natco is a distributor of fasteners and chain products with six warehouses located across the US, stocking more than 40,000 SKUs and specializes in products for the heavy construction, metal building manufacturing, waterworks and general industrial markets. Following the transaction closing, the Packaged Fastener Division (located in Cleveland) will be moved to a new Lindstrom distribution center in Cleveland. Founded in 1972 and headquartered in Blaine, MN (outside Minneapolis), Lindstrom is the largest master distributor (selling exclusively to distributors) of metric fasteners in the US. The company operates five branch warehouses in: Elgin, IL; Mississauga, Ontario, New Windsor, NY; Greer, SC: and Grand Prairie, TX. The company's Mega Metric business unit in Greer, SC manufactures large diameter, hot-forged and machined fasteners in both metric and inch diameters. Lindstrom is a portfolio company of Harbour Group, a St. Louis, MS based private equity firm which invests in middle-market US companies.

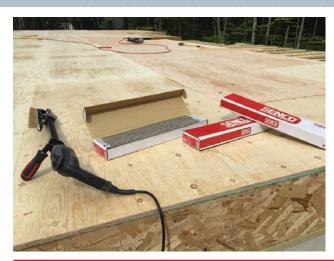
Purchase price: not available

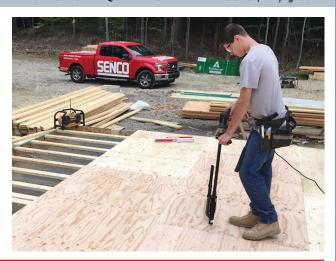


On March 31. 2017. Fastenal Company (Nasdag: FAST) purchased **Manufacturers** Supply

Company ("Mansco"). Founded in 1928 in Hudsonville, MI, Mansco is a distributor of production fasteners and MRO consumables, specializing in supplying commercial furniture OEMs. In addition to a full line of fastener products, Mansco provides customers with customized packaging, kitting and light assembly services. The privately-owned company operates branch warehouses in Madison, AL and McAllen, TX. Mansco generated net sales of approximately \$50 million in calendar 2016, largely from its flagship MI location. Founded in 1967 and headquartered in Winona, MN, Fastenal is one of the largest fastener distributors in North America with approximately 2,500 stores and 14 distribution centers worldwide. The company employs more than 19,600 people and generated net sales of \$3.96 billion in calendar 2016. Fastener products represent 37% of Fastenal's total net sales, with the balance derived from a diverse range of Class C parts and consumable supplies. Purchase price: \$61.2 million

SENCO NEW SUBFLOOR SCREWS & NAILS CUT INSTALLATION TIME & DO NOT REQUIRE PROPRIETARY TOOLS from page 58





SENCO – Fastening Innovation Since 1948

At SENCO, our philosophy has always been to listen and learn from customers about the shortcomings of existing tools and equipment, then develop products that enable professional contractors to get the best results without sacrificing efficiency, while staying safe on the jobsite.

Our innovations start with a deep understanding of professional users, their applications and the challenges they face every day. When it comes to product development, the voice of the customer (VOC) is an integral part of everything we do.

Beginning with early product definition and concept development through final product verification, SENCO strives to ensure that we've met or exceeded the expectations of our users. We do this with extensive in-house testing, global on-site testing, and rigorous industrial in-plant testing.

For example, SENCO's DuraSpin auto-feed screw systems have received multiple patents in areas like the design of the corner-fit feed system, the sliding rail and the depth of drive clutch mechanism. All of these features enhance the users' experience with the tool while increasing productivity.

In the early 2000s, we heard a lot about the shortcomings of available cordless nailing technology. Fuel cells were messy; batteries required long rampup times. In response, we designed the Fusion line of fastening systems, a game-changing technology that has won a number of awards for exceeding other cordless products in the marketplace.

Several years ago, our professional users began telling us they were looking for a finish nailer that was a cross between the currently available 18-gauge and 23- gauge fasteners. The FinishPro 21LXP is a slight/ medium head 21- gauge pinner that delivers the holding power of a brad nail while leaving a much smaller indent that requires little to no filling.

Our history of innovation has made SENCO what it is today - a pioneer in the fastening industry - and it is what will carry us in the future. As material substrates evolve and building codes change, we continue to develop tools and fasteners that adapt to the changing commercial and residential building industry, and increase the productivity and performance of our users.

For additional questions about our new subfloor nails and screws or our full line of tools and fastening systems, please contact:

WhisperGrip Nails

Ryan Schuler, rschuler@sencobrands.com

Subfloor Screw

Mike Desmond, mdesmond@sencobrands.com

Or talk to one of SENCO's field product managers, who visit job sites on a regular basis.



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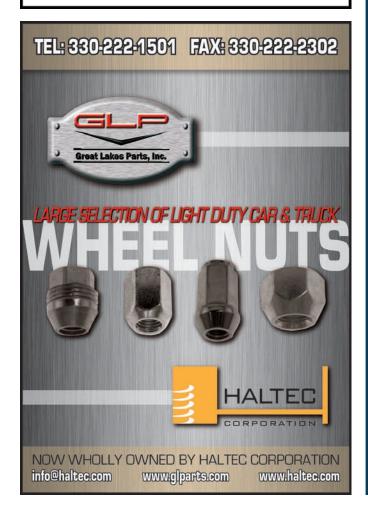
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distributor news

North East Fasteners (NEF) a leading supplier of commercial, military and aerospace fasteners is very pleased to announce that Howard E. Sands Sr. has joined NEF as our new

Director of Quality. In this capacity, Howard will be heading NEF's Quality Department with along the assistance of NEF's Ouality Manager Thomas Burdette and his team. Howard has already been



instrumental in enhancing our quality capabilities as well as preparing the team to easily move into the newly updated AS9100D certification.

Howard brings with him a wide range of manufacturing knowledge with 30 years of experience in the Quality Assurance arena. Prior to joining NEF he held Quality related positions with the Boeing Airplane Company, Sikorsky Aircraft Company, Oxley Inc. a developer and manufacturer of NVIS compatible LED based lighting and Cockpit modules for civil and military aircraft use and HID Corporation World Leader in access control RFID technology.

He has extensive knowledge in Mechanical Engineering, Manufacturing Process Engineering, Product Development and Engineering, Regulatory Compliance and implementation of Quality Management Systems.

Howard has served in the United States Army where he was awarded Distinguished Graduate for Aircraft Powertrain Repair and rounded out his military career with an Honorable Discharge in 1988. He holds numerous certifications for Airframe Fabrication, Mechanical Design, Business Management, Lean Manufacturing and SPC.

He is a Certified Continuous Improvement Champion and has been a member ASQ since 1989.

For more information contact North East Fasteners at P.O. Box 322, 8 Tremco Drive, Terryville, CT 06786-0322. Tel: 860-589-3242, Fax: 860-589-6969, email: nef@nef1.com or online at www.nef1.com.



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BBI RECOGNIZES KEY INDIVIDUALS



Brighton Best International is pleased to announce the promotion of Al Tooke to the position of Regional Manager for the Southeast sales territory. Al is an industry veteran of over 15 years and with BBI for many of

those. Al has a passion for his customers and the industry. You can reach out and congratulate Al at atooke@brightonbest.com.

Brighton Best International is pleased to announce the promotion of Alfonso Paniagua to the position of Dallas Branch Manager. Alfonso brings his years of experience with both PFC and



Brighton Best to his new position. BBI Dallas is a dynamic facility for Brighton Best and Alfonso is ready to take on this challenge. Alfonso can be reached at apaniagua@brightonbest.com. Congratulations Alfonso!

WIFI@work announced that it is featuring Peggy Hsieh COO of Brighton-Best International Long Beach, CA, USA. A Women In the Fastener Industry member. Hsieh has been COO at Brighton Best International for a 9 years.



Visit www.fastenerwomen.com to read more about how Peggy is making a difference in the fastener industry.

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SEFA ANNOUNCES NEW BOARD OF DIRECTORS by Nancy Rich

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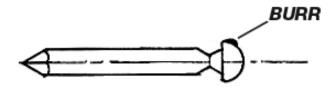
Executive Director

Nancy Rich

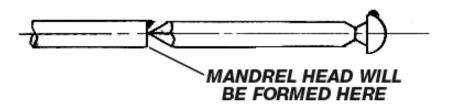
SEFA Welcomes New Members

Atlantic Bolt, Inc Charlotte NC M&M Construction Supply Rainbow City, AL Unique Industries Calera, AL

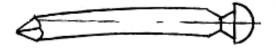




The rivet mandrel also has tell-tale signs regarding quality. A burr on the head of the mandrel. This burr can prevent the rivet from entering the hole in the work piece because the diameter of the mandrel head including the burr is larger than the diameter of the hole in the work piece.



Open-End rivet mandrels are produced on nail making machines. The burr is caused by the material from the point of the previous mandrel made on the nail making machine being left attached to the wire of the next mandrel head to be headed.



Another sign is the straightness of a mandrel. Mandrels should be straight and concentric within .008 TIR. During the manufacturing assembly operation, a bent mandrel will deform the rivet body.

A bent mandrel will also affect the ejection of the spent mandrel from a rivet setting tool when setting the rivet.

This condition is caused at the nail making machine.

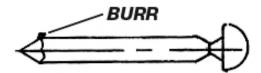
The machine has wire straightening rollers that will straighten the bend of the coiled wire. If the rollers are not properly adjusted, the natural curve of the coiled wire will present in the mandrel.

This bending condition can also occur during the mandrel plating operation. The mandrels are placed into horizontal plating drums that contain holes for the plating chemicals to contact the mandrels while the drum slowly rotates in the chemical solution. If the holes in the rotating drums are larger than the diameter of the mandrel shank, the mandrel will become lodged in

the holes as the drum rotates. The weight of the mandrels in the drum will bend the lodged materials.

Finally, the point of a mandrel will also reflect the manufacturing quality of the mandrel. The burr at

the point of a mandrel should not exceed .005 maximum height.



The burr does affect the quality of the blind rivet when it is assembled to the rivet body. This burr will cut into the inside diameter of the rivet body. This effect is more pronounced when assembled to a stamped rivet body and does affect the retention force between the assembled mandrel to the stamped rivet body.

The burr, when assembled to a stamped rivet body will enlarge the hole of the stamped rivet body that will cause loose assemblies. The condition is not serious in an extruded rivet body because the wall thickness of an extruded rivet body is larger than a stamped rivet body.

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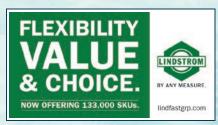
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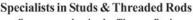
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AUTHORIZED DISTRIBUTOR FOR RECOIL® TANGLESS HELICAL INSERTS

Bay Supply has become the first U.S. distributor of the new Recoil® tangless helical inserts. This new fastener technology of tangless and threaded inserts has now moved from European and Asian markets to the United States. Cliff Bernard, CEO of www.BaySupply.com commented "We are pleased to have been chosen as the first authorized distributor for these advance precision inserts. All are designed to offer reliable thread strength benefits while eliminating the risk of losing a tang. Bay Supply will stock a complete inventory of free-running, screw-locking designs as well as strip-fed styles. We will also provide pneumatic and electronic tooling, repair parts, factory trained service technicians and of course our technical advice experts."

These new inserts do not require a tang to complete installation - instead they employ a driving notch. Without a tang to possibly break off it eliminates a full step in the installation - no vacuuming or tang extraction. The new design is ideal for high volume applications found in high-tech manufacturing, electronic devices and wherever

high-precision and smaller diameters are required. Its bi-directional design eliminates insert orientation and need for insert checking prior to each installation.

Tangless inserts are easily adjusted or removed after installation - just reinsert the installation tool and wind or unwind. Removal tools never touch the application. Since there are no loose tangs to possibly damage the finished product there is no risk of waste falling into engines, electronic assemblies or other environments.

Bay Fastening Systems is a leading, international distributor of rivets, Huck Bolts, threaded and coil inserts and aerospace MS/NAS rivet nuts. Authorized brands include Stanley, Huck, POP, Avdel, Sherex, Marson, Gesipa, AVK, Atlas/Penn, Champion, Craftline and more. Recently it launched the world's largest e-commerce engineered fastener web portal www.baysupply.com. featuring hundreds of thousands of fasteners and combinations, a complete line of tools, full technical information, and installation systems. Bay has a factory authorized repair division.

distributor**news**

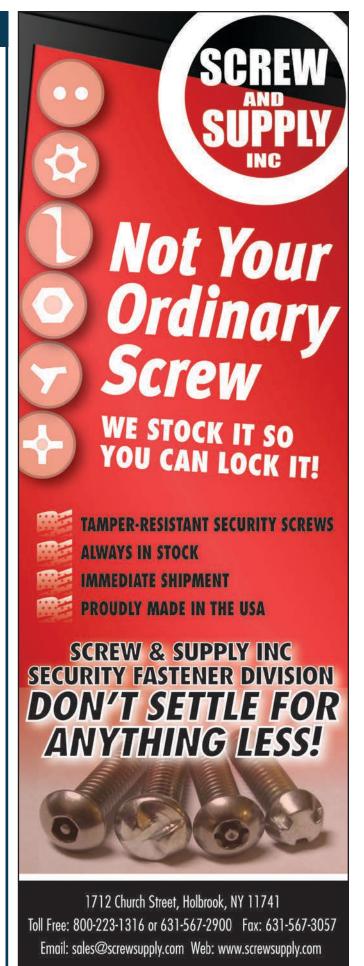
AZ Lifting Hardware (AZLH) is proud to announce the sales team of Desert Distribution Sales will represent them in the Arizona, California, Colorado, Nevada, New Mexico and Utah.

Desert Distribution Sales LLC was established in 2001 to represent industrial products manufacturers' in the fastener and specialty tool distribution markets. John Wachman, co-founder, brings with him many years of fastener related experience and today trains fastener distributors and sales professionals through the Fastener Training Institute. John covers Arizona, parts of California and southern Nevada. Jo Morris covers Colorado, New Mexico, Northern Nevada and Utah. Beth Van Zandt covers most of California. Both Jo and Beth have also been in the fastener business throughout the majority of their careers. Desert Distribution Sales is a member of Pac-West Fastener Association.

"We have managed Arizona and the surrounding states direct from our headquarters in Phoenix since our founding. As we'd grown our ability to cover the market become a challenge and the benefit of having professional representation was obvious. I've known John, Jo and Beth for many years; they are dedicated to the business, maintain a high level of integrity and fit perfectly with our mission to provide superior customer service." Says Chuck Smith, president of AZLH. "There is no doubt we will be a better Company with the Desert Distribution team working with us."

AZ Lifting Hardware is a wholesale distributor of globally produced industrial lifting and suspension hardware such as turnbuckles, eye bolts, shackles, hooks and related wire and chain hardware and a manufacturer of Clevises, Rod End and custom Eye Bolts through 1½" (36mm) diameter. They have served the fastener, rigging and industrial distribution markets since 2006.

To request a catalog or more information, contact AZ Lifting Hardware at contact them at 7150 W. Roosevelt St. Ste C101, Phoenix, AZ 85043. Tel: 1-888-936-1466, Fax: 623-936-8909 or visit them online at www.azliftinghardware.com.



JIM TRUESDELL SOCIAL MEDIA AND EMPLOYEE FREE SPEECH from page 68

With such broad interpretations it is putting what would appear to be reasonable employee handbook language limiting critical social media comments within a prohibited zone and make it subject to attack by unions or independent employees who challenge their discipline or discharge in court.

Part of the problem is that for the past eight years the National Labor Relations Board has appeared to be slanted against employers with its majority of strongly liberal board members appointed by President Obama. The process generally begins with an unfair labor practice charge brought before an Administrative Law judge. An appeal can then be taken to the NLRB after which the option of federal court appeals exists. The Trump Administration has moved slowly in nominating replacement labor board members which has left the existing situation in place and prevented a turnaround in policy. It is only in June that the Administration submitted two names to the Senate with a hope that they would be approved before the August recess. If both of these management oriented nominees are approved then it is expected that the Fall might see NLRB actions to reverse some of the unilateral rulings which the Obama dominated Board had pushed through in recent years. Perhaps it will also then take a more restrictive view of the definition of concerted activity which has given relatively free rein to employee criticism of employers on-line.

In the meantime, there are reasonable limitations on employee social media comments which may step over the line of free speech and which could give rise to discipline or dismissal. Clearly an employee can complain on line about wages, hours or working conditions, and that freedom will be interpreted very broadly. He or she cannot, however, post threats of violence or hate speech or harassment. Additionally, an employee should not be disclosing trade secrets or confidential company information on-line. Nor should any employee be allowed to post false or misleading information about the company or its products which is designed to harm the company's reputation or to unfairly specifically target managers of the Company. Personnel manuals or other company policies can be clear in prohibiting such statements as long as they do not venture into the issues affecting workplace employment issues.

Intriguingly, one might find a real disparity in opinion of what is appropriate company related comments on social media if we take into account the age of the person making the comments. Younger employees who have become accustomed to the free wheeling freedom of social media blogs might be inclined to say all rules are off when it comes to free expression on-line. They have grown up expressing themselves freely on subjects that an older generation might well have felt are private and not for public scrutiny. I have observed this in discussions with today's college students in classes I have taught and I have observed it in younger employees who see nothing wrong in speaking out about what they dislike regardless of whom or what it may hurt. More traditional, older employees seem far more circumspect about what they say when they venture into the cyber universe. Perhaps I am stereotyping, but I believe there is some validity to it, and perhaps it should give employers reason to believe that the conditions at their workplace are, more than ever, subject to being publicized for all to see. This goes hand in hand with the phenomenon of on-line customer reviews, comments, and complaints which are now readily available, and which should serve to keep a company on its toes and ready to respond quickly to perceptions of failed services or products. Perhaps the best defense is attention to employee needs and the creation of a positive workplace atmosphere which would minimize the chances of disgruntled workers hanging out the dirty laundry in a public forum.

Have a clear policy about protecting the company reputation in on-line postings, but steer clear of anything that could be looked at as stifling discussion of legitimate employment terms and workplace conditions. Up to this point, the law has not been friendly to employers attempting to control the dialogue.

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PHOTO CREDIT: GREG CHRISTENSEN



ROBERT FOOTLIK WELCOME TO MT 442-542 DISTRIBUTION AND WAREHOUSING from page 72

Keep in mind that certifications gained on your own initiative look great on a resume. This will move your application to the top of the pile. To my knowledge no other course offers this incentive. In support of this goal I will answer questions but achieving certification is strictly up to you."

"The assignment also included "Action Items." This is not homework, that's for kids. Each of the Action Items sends you someplace to find an answer, multiple answers or even some fun sites on the Internet. Did you do the first Action Item and clean your wallet? It's the smallest active warehouse around and you are the Boss. What did you take out? What did you add? And most importantly what did you learn? This lesson scales up to even a mega Distribution Center. Do you still have your "A?"

What's going on?

One of the action items sends the students to the Internet to look up the Occupational Health and Safety Act with a simple question that asks "What color should you use for an aisle marking line? Try this on your own and I'll even provide a hint that sections 1910.22 and 1910.144 provide clues, but no answers. Dig deeper and you will understand how to research a new topic, outsmart an OSHA citation and advance your career.

Traditional grading on a curve is ridiculous for a course that requires thinking and action, not just rote memorization. What really matters is what the student knows initially and what they can take with them at the end of the semester. The secret of how to measure this lies in the Dreaded Oral Midterm and Open Source Final Exam. Along the way the luxury of not having to worry about a grade opens doors to enhanced learning and more fun.

Week Two: Numbers and Paradigms

"Some of you have now discovered that the Action Items are actually a two way communication. Several were probably quite surprised to receive a timely reply and comments after the initial submission. In a few cases we went three or more rounds of dialogue to further explore the topics. Great! Early submissions are invariably rewarded with insights, questions and really interesting

learning...for all of us."

"Most of you now have the suggested Study Partner in place to work through the assignments. A single joint submission is appreciated and if your answers/comments differ please change colors and let me know which color is coming from which of you. Private communication is also welcomed, but Distribution and Logistics is always performed with others and by working together you cut my work load while enhancing your own communication skills."

"You have also noticed that most of the Action Items have no real answer. This isn't math or physics, it's the real world. The journey to a suitable answer may be long or short but it will always be entertaining. Some of the questions can be best answered through you own experience, others take more thought and research that offers insights and knowledge beyond the superficial and obvious. For example cleaning out your medicine cabinet, sock drawer or suitcase required questions of space, usage, desirability and importance. The correct answer can only be found in your context."

"Similarly as you delved into some statistics and parameters you should have found that paradigms (underlying rationale) lies, misleads and often saps creativity. In other courses you may have learned about how inventory usage can be ranked "A," "B," "C," etc. but have you ever questioned whether this rationale makes sense in the real world? The example of a ½"-20 nut is an "A" item being sold with hundreds, if not thousands of fastener choices. This means that if the fast movers are in the front of the warehouse AND WILL LIKELY BE SOLD WITH A SLOWER VELOCITY ITEM the warehouse location system must be designed to take this into account or your pickers are going to walk their feet off."

What's going on?

As you are well aware there is a plethora of raw data available and some great ways of shaping this into information that can lead to false and even harmful conclusions. The examples provided focus on using common sense and real world investigation to verify information before acting. There is also emphasis on taking personal control of your life at work, at play and at home. This is the essence of becoming an effective manager.

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GLOBALFASTENERNEWS.COM HIRING THE RIGHT PERSON FOR THE JOB from page 74

When it comes to recruiting - which Nugent defined as "attracting the right people at the right time" - it's important to conduct interviews at least once a month, in not weekly.

"Even if you don't need them, file the resumes away in case you might need them later." Making interviewing a consistent ongoing process will reduce that stress by 50 percent, Nugent stated. Equally important is defining job criteria and required qualifications/competencies.

"Job descriptions are a waste of time. What you really need to know are key accountabilities - the four or five essential tasks they need to achieve."

Promote from within if possible, he advised. If that's not possible, companies should manage external resources (networking, referrals, search firms, advertising) and use available technology (Internet, teleconferencing) to find top talent.

Once a company hires someone new, training and development are key to setting that person on a path to success.

Nugent advises providing orientation; implementing a structured coaching process; continuous job skills training; developing professional growth goals and career paths; creating formal mentoring programs; formulating a training plan; and using external resources for development opportunities.

To retain "A" players, it's important to conduct regular performance reviews.

"Acknowledgement is THE top motivator," Nugent emphasized.

Also, link compensation to team performance. "Your employees know each other better than you do; they will identify who is holding things back," Nugent explained.

Likewise, maintain competitive and creative compensation plans to keep top talent interested. But "it's not all about the money," Nugent added.

And finally, engage personnel in designing the future (top-down annual plans). "Get your team involved in your goals; that's the only way your going to accomplish what you want," Nugent advised Pac-West.

GLOBALFASTENERNEWS.COM

NFDA NFDA AND YFP PARTNER TO PRODUCE LEADERSHIP ACADEMY from page 66

Companies that participated in the survey get the 2017 Profit Report at no charge, as well as a Profit Improvement Profile, a confidential, personalized report that evaluates the firm's results relative to firms of similar size and similar operating characteristics. Along with the Profit Improvement Profile survey participants received access to Profit Toolkit Online, a Microsoft® Excel spreadsheet designed to help them plan critical financial improvements for their firms.

For those who did not participate in the survey, the 2017 Profit Report can be purchased for \$250 (NFDA members) or \$500 (non-members) at www.nfda-fastener. site-ym.com/store/ViewProduct.aspx?id=9733488

50th Anniversary Celebration Planned

2018 marks NFDA's 50th anniversary, and we will celebrate in style March 14-16, 2018 at the J. W. Marriott Resort and Spa in Guanacaste, Costa Rica.

You'd be surprised how easy it is to travel to Costa Rica, with flights to Liberia's Daniel Oduber Quirós International Airport from most major U.S. cities on most major U.S. carriers. Not only is it easy, but it's very affordable, often less expensive than flying in the U.S. coast to coast.

Check the NFDA website at www.nfda-fastener.org for more details and save the date.

ESPS® Returns in 2018

Executive Sales Planning Sessions® return in 2018, in conjunction with the NFDA Annual Meeting, June 5-6, at the Embassy Suites Magnificent Mile in Chicago, Illinois.

For more information about NFDA and its activities. visit www.nfda-fastener.org or call 714-484-7858.

distributor**news**

EFC International, a leading supplier of engineered fasteners, with corporate office in St. Louis, Missouri, has announced the implementation of their worldwide globalization strategy with the opening of offices and warehouses in China, South Korea, and Germany

Expanding its global footprint and investing in key strategic global markets, EFC ensures both supplier and customer needs are met. physical presence in these countries enhances our relations, providing local support and value by offering a simpler, more cost-efficient way to manage the supply chain, " said Guenter Retkowski, Vice President of International Sales.

Upholding the commitment to provide engineered solutions globally for automotive, industrial, and distribution markets, is recognized with the increased investment in these physical Through a disciplined approach and putting together an invaluable team of international employees, EFC delivers an unbeatable customer experience globally.

EFC's robust international growth is a tribute to the EFC team and to the strong international reputation of the world-class manufacturers who they have partnered with. These partnerships ensure customers receive the high-quality service they've come to expect from EFC – anywhere in the world.

Matt Dudenhoeffer, President and CEO states, "EFC's focus on key attributes of Expert People, Engineering, Quality, Connections, Logistics and Local Support, Global Presence will be the driving force for the future."

EFC International is a leading supplier of specialty engineered metal, plastic, cold-formed, spring steel stampings, electrical and assembled component parts to the OEM and Distribution market places. EFC highly differentiates itself as a technical expert for an expansive offering of engineered components from world-class manufacturers, providing a viable and effective means for customers to reduce their supply base while maintaining the integrity of their products.

For more information contact EFC International at 1940 Craigshire Road, St. Louis MO 63146. Tel: 314-434-2888 or visit the website at www.efc-intl.com.

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BEACON FASTENERS BEACON'S CUSTOMER PERFORMANCE NEVER FAILS. YOU CAN TEST US. from page 76



By working together we solved the problem of a critical performance issue and made sure our customer's requirements were met. For the last five years, Beacon has supplied over 4.6 million of this thread forming screw without any quality issues. We are proud to have provided the assurance that resulted in a trusting and successful partnership!

Come check us out and let Beacon be your solution! We love visitors and invite you to tour our facility and QA testing lab whenever you are in the Chicagoland area.

What's New At Beacon?

We continue to grow and are excited to expand our product and service offerings! More details to come later this year!

Beacon has the largest inventory in North America of quality driven high performance screws with a focus on Thread Forming, DIN 7500 Metric Thread Forming, Thread Cutting, SEMS, High-Low Tapping Screws, complementary sizes of Sheet Metal Tapping as well as Specialty Cold Headed Fasteners. For the latest fastener news and updates please visit www.beaconfasteners.com.

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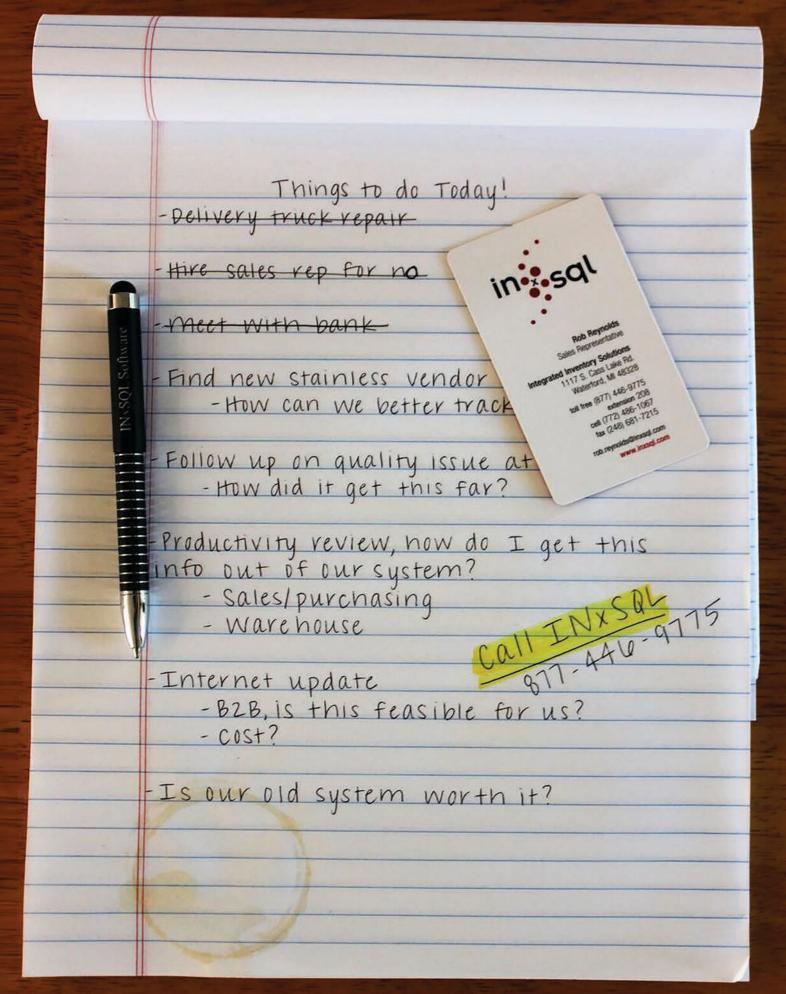












SPIROL LIGHT DUTY COILED SPRING PIN USAGE IN ASSEMBLIES WITH SOFT MATERIALS from page 78

The existence of the slot implies a number of other problems:

It allows pins to interlock, making feeding and installation difficult and time-consuming, which is always a major concern especially in high



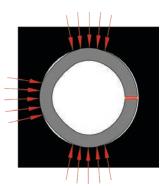
applications. This attribute does not allow for automatic feeding and installation of either style Slotted Pin.

usually, once installed in the recommended hole, the gap may close totally and the pin will

become a solid part unable to absorb shocks and vibrations imparted to the assembly during its life. Since the pin does not absorb the forces, the loads are transferred to the host sort material resulting



in hole damage (enlargement) and premature assembly failure.





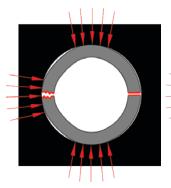
NON-DYNAMIC CONDITION INSTALLED SLOTTED PIN SHOWING THE "BUTTED" CONDITION MAKING THE PIN UNABLE TO ABSORB **DYNAMIC LOADS**

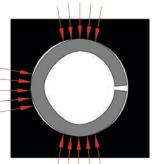
DIRECTION OF IMPACT LOAD AND RESULTING HOLE ELONGATION (ENLARGEMENT)

- As they are driven into the hole the gap will close creating a stress concentration line opposite the gap.
- During the manufacturing of Slotted Pins, material stresses are concentrated at 180° opposite the slot. When the pin flexes in the application, it flexes

at the same location. The thinner material on the ISO 13337 light duty Slotted Pin is not able to easily absorb this additional material stress, and premature fatigue results in assembly failure.

Shear strength will depend on pin orientation versus orientation of the applied loads. Slotted Pins need to be orientated to maximize strength.





BREAK CONDITION: SLOTTED PIN AFTER FATIGUE FAILURE AT 180° FROM THE GAP

NORMAL CONDITION: SLOTTED PIN WITH THREE POINTS **OF STRESS CONCENTRATION IN HOST**

A Better Solution

All these problems can be avoided through the selection of the right Spring Pin. Coiled Spring Pins are a better solution. Coiled Pins can be easily identified by the 2-1/4 coil cross-section.

The absence of a gap eliminates pin nesting and interlocking.

When Coiled Spring Pins are driven into the hole, the compression starts at the outer edge and moves through the coils towards the center. As a result, the joint will have equal stress distribution and uniform strength and flexibility, independent of the direction of the applied load (force).

Since Coiled Spring Pins cannot butt, once installed they will be able to compress even further under additional forces, dampening shock and vibration that would otherwise be transmitted to the hole wall creating permanent damage. The Coiled Spring Pin becomes an active member of the assembly and prolongs the useful life of the end-product.

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DISTRIBUTION ONE UNCLOUDING CLOUD - ENHANCED ERP from page 84

Beyond the aforementioned benefits of ROI and Data Management, Cloud ERP readily supports growth through its inherent ability to scale at the pace of distributor expansion. With Cloud ERP, there's no need to purchase additional physical servers to handle expansion unlike with other methods of deployment.

Cloud ERP is further aided through the implementation of a comprehensive software suite. Turnkey software avoids the necessity of purchasing additional programs to broaden the scope of increased business activity—the functionality is already included and ready to work as needed.

Cloud-enhanced ERP-ONE+

With a broader understanding of Cloud ERP benefits, it's easier to formulate the missing question from the start of this article: In what ways will Cloud ERP help my business?

Choosing the correct Cloud ERP software provider is crucial to achieving ROI, surpassing growth objectives, and exceeding productivity expectations. Distribution One has the answer: ERP-ONE+. A comprehensive 64-bit software suite. Cloud-enhanced ERP-ONE+ is the complete, fast, secure solution for today's competitive, fast-paced distribution market.

The turnkey ERP-ONE+ suite provides wholesale distributors with the exact tools they need to increase user productivity, trust their inventory, and reach ROI targets. To discover more about Cloud-enhanced ERP-ONE+, contact us at info@distone.com or sign up for a software demonstration to see the power of ERP-ONE+ in action.

The answer is: Successful implementation of ERP-**ONE+ Cloud.** And the question: **How can Distribution One** help you?

To find all your Cloud ERP answers, visit Distribution One at www.distone.com/limitless.

DISTRIBUTION ONE

JOE DYSART COOL NEW VIDEO MARKETING TOOLS FOR FASTENER DISTRIBUTORS from page 124

¤ YouTube Editor (free) (www.youtube.com/editor). Regularly updated, YouTube Editor is a basic video editor that enable you to automatically upload your clips, put together those clips to create new videos and publish them on YouTube quickly and easily.

You also have the option to make your videos more SEO-friendly by adding annotations and transcripts. And the editor has the ability to combine multiple videos, trim the clips, add music from a library of approved tracks and customize with special tools and effects.

Similar, regularly updated basic video editing products include: Corel Video Studio (www.videostudiopro.com), **Adobe Premier Pro** (www.adobe.com/products/premiere), Nutshell (www.nutshell.com), Magisto (www.magisto. com), **Animoto** (www.animoto.com), **Videoshop** (www. videoshop.net), **Renderforest** (www.renderforest.com) and iMovie (www.apple.com/imovie).

" Vidyard (contact for pricing) (www.vidyard.com). Another video creation and editing tool, Vidyard is different from any others by placing a heavy emphasis on analytics tools, which can give fastener distributors deep insight into who's looking at your videos and how those videos are impacting those video. Included among the tools is an email gate, which you can use to capture viewer email addresses before they can view a video.

- **Snapp App (starts at \$1,650/month)** (www. snapapp.com). This is an interesting tool that enables you to quickly add interactive elements to your promotional videos, such as pop-up questions that need to be answered before a video can continue. For an in-depth look at interactive elements Snapp App can add to your productions, check out their promotional video: (www.snapapp.com/platform/ interactive-content-types/interactive-video).
- **" HighTail (\$12/month)** (www.hightail.com). A marketing team at a fastener distributor looking for a quickly assembled online space for collaborating on a video should consider HighTail. It allows you to effortlessly post a raw video, which team member can comment on via text to critique the creation process and move the video along to a finalized production. Essentially, HighTail is great for team effort videos that need phase-by-phase approvals and creative input form multiple team members.

OBITUARY



Michael J. O'Shea (1940-2017)

It is with deepest regret that S&M Retaining Rings/Schneider and Marguard Inc. informs the fastener industry of the loss of our president and owner, Michael "Mike" J. O'Shea, who passed away on May 12. Mike began his career as a tool and die maker at Western Electric Co. In 2002. he was able to fulfill his lifelong dream of owning his own company by purchasing Schneider and Marquard. The S&M Retaining Rings division was started shortly thereafter, born from Mike's experience and knowledge of the retaining ring business. Under his guidance and Schneider's capabilities, S&M Retaining Rings was able to make exceptional tooling to create a quality product.

Throughout the years, Mike enjoyed many pastimes including hunting, fishing, bowling, building and collecting antique cars, and being a pilot. He also proudly served in the US Army Reserves at Fort Dix and Fort Knox. Above all else, Mike loved working and spending time with his family and especially his 9 grandchildren. Not only have we lost a dedicated employee, but we have also lost a dear friend, a loving husband of 50 years to his wife Judy, and a father to his 4 children, Michele, Lisa, Christine, and Michael.

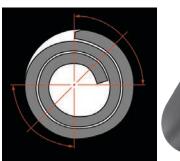
His son, Michael, has been slowly taking over Mike's duties as both president and owner of both S&M Retaining Rings and Schneider & Marguard. Michael has been with the company since 1998 and has worked significantly with his father to grow the business. In this difficult transitional time, we hope that you will continue to support us and have the same confidence in us as you have in the past. We thank you our customers for your help in making S&M Retaining Rings your retaining ring supplier.





SPIROL LIGHT DUTY COILED SPRING PIN USAGE IN ASSEMBLIES WITH SOFT MATERIALS from page 178

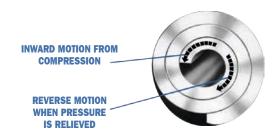
From the manufacturing point of view, Coiled Spring Pins are also a higher quality product. Coiled Spring Pins feature swaged chamfers at both ends (the bevelled chamfer of both types of ISO Slotted Pins is optional on one side for diameters $\geq \emptyset 10$ mm), and they are made to narrower diameter tolerances (270° of the circumference will be within the specified tolerance as opposed to an average of just three measures in the case of Slotted Pins). This results in more contact area between the pin and its host with a Coiled Spring Pin versus three points of contact on a Slotted Spring Pin. Square, clean-cut pin ends are also an important feature of Coiled Spring Pins.





270° CONTACT WITH HOLE

INSTALLATION FLEXIBILITY



Standard Coiled Spring Pins are manufactured in three duties: Heavy Duty (ISO 8748), Standard Duty (ISO 8750) and Light Duty (ISO 8751).

Light duty ISO 8751 Coiled Pins have been specifically designed for use in soft host material. The thinner material, and specifically designed coil relationships, deliver extra flexibility that will translate into reduced insertion forces, homogeneous axial forces and radial forces suitable for applications using soft materials. They will allow trouble-free automated installation, preventing

damage to the hole. Ultimately, the selection of a light duty Coiled Pin for use in soft material hosts will protect the hole, reduce component cost preparation, increase productivity and enhance the overall quality of your endproduct.



In addition to the standard ISO range, SPIROL manufactures Coiled Spring Pins with special features such as Extra Light Duty Coiled Pins, Superflex Coiled Pins, Headed Coiled Pins and Flared Coiled Pins. We can also supply pins with controlled insertion force, improved CPKs and a choice of raw materials and finishes.

Whatever the application, SPIROL has the right Spring Pin for it.

Comparison of Light Duty Slotted Spring Pins and Coiled Spring Pins		
Light Duty Slotted Spring Pin (ISO 13337)	Light Duty Coiled Spring Pin (ISO 8751)	Benefits of Coiled Spring Pins
- Gap	- No gap	- No interlocking, equal stress distribution, uniform strength and flexibility, no need for orientation to maximize shear strength, trouble-free automation
- Horse-shoe shape (3 point average diameter measure)	- 270° contact with hole	- Increase retention force, better transfer of dynamic loads
- Bevelled chamfer (optional in one side when diameter ≽ 10mm)	- Swaged concentric chamfers in both ends	- Easier installation, the smooth chamfer without sharp edges protects the hole









in





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THE BEST MULTIMEDIA ADVERTISING SOLUTION FOR THE FASTENER INDUSTRY

G.L. HUYETT EXCEPTIONAL CUSTOMER SERVICE TAKES GREAT PEOPLE AND SMART TECHNOLOGY from page 90

"Our mission is to deliver a very consistent experience to our customers, whether in person, online, via email, or by phone. To be successful, there has to be transparency across product and price information. The way we have built our systems and how we train our people supports this goal."

Tabor adds that there have been recent shifts in the market requiring visibility and transparency in material composition, and country of origin of products driven by RoHS, DFARs, and other government and end user mandated requirements. "We invested over a year working with our suppliers developing the process to allow customers to easily download Certificates of Conformance, RoHS/REACH Compliance and Material Certifications down to the Lot Level from our website. In

the first four weeks we had over 1,000 downloads."

Distributors can also upload their company's logo for use on drop ship pack lists. This allows the distributor to use G.L. Huyett as a discreet and reliable part of their logistic process. When the customer receives the order, it appears that the order was sent directly from their distributor customer.

"We provide resources and tools for customers to effectively manage searching and transacting as efficiently as possible," says Tabor. "Ultimately, we have compressed the time invested in checking stock; identifying accessories; locating alternates when stock is out; order tracking; and acquiring certifications to just a few clicks. And we offer a five percent discount for orders over \$100 that are placed online at Huyett.com."

G.L. HUYETT

NOR-CAL SUPPLY COMPANY INC CELEBRATES 60 YEARS! from page 154

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BENGT BLENDULF HOLDING OUR WORLD TOGETHER from page 122

The designer can choose from a variety of rivet types depending on the joint function. If loads are small and the joint can be considered a "place-keeper", a break-pull mandrel rivet can be an acceptable choice. The mandrel breaks off near the upset and leaves a hollow rivet body. If shear loads are higher, a structural rivet can be used where the mandrel breaks at the original rivet head, leaving a solid filling of the hole.

You will find a lot of useful information in IFI-110 (inch) and IFI-550 (metric) showing the various head types and recommendations for installation. Blind rivets can be installed by a simple hand tool or by using fully automatic assembly equipment. The term "blind" means that the rivet can be installed in a design where we have no or limited access to the back side. I recommend that you read Tony DiMaio's articles in the Link and all his other articles on this subject for further guidance.

A higher strength "rivet" type is the so called "huck bolt" design, which is actually preloaded (stretched at assembly) to cause a predictable clamping force in the joint. It is very resistant to vibration loosening and often found in railroad equipment, truck assemblies and heavy machinery. There are a number of other proprietary fastening solutions on the market that could also be classified as "low service level" choices. Check technical publications where fastener manufacturers advertise nonstandard fastener solutions (key words like clinch, pushthrough, press-in, self-riveting, etc.).

High Service Level

There could be many reasons why a designer wants to create mechanical joints that can be easily assembled and disassembled. It could be for service/maintenance reasons, like removing a cover to replace a filter or to perform some repairs. This is where threaded fasteners have a natural place in equipment design. However, high service level does not automatically mean high strength.

A joint using "hook-and-loop" fasteners made of a polymer is very much serviceable, but does not have the strength of steel. NASA use a lot of these fasteners in space flight systems, they are very good at staying put even if vibrations are severe.

If external work loads are low and the purpose of a joint is simply to keep things together, we can call the fastener a "place keeper". If we have selected a threaded fastener to do a light job, we will likely pick a machine screw or a tapping screw. A tapping screw of the sheet metal type may, however, not be the optimum selection for repeated use. Some tapping screws have added functions like drilling and thread forming which can substantially lower the In-place-cost or IPC by eliminating separate drilling and/or tapping operations.

Machine screws with standard 60° threads are very useful as "place-keepers" and can be used repeatedly. They are typically made of low strength steel and have a cross-recess, hex lobular, square drive or slotted head. If a designer, by just old habits, selects a low-price product, he/she may miss some great opportunities to lower the IPC and improve the assembly work. We can eliminate tapping and internal thread by using a rolling screw (SAE J81, SAE J1237, DIN 7500, etc.) that will cold form an internal thread with the same (or better) fit than if it was tapped. The cold forming will make the internal thread stronger than the tapped (cut) and the close mating of the screw and internal thread can also improve vibration loosening resistance. For assembly, we should also look at the ergonomic side and pick a drive system with vertical walls (Hex, 6 lobe, square, etc.) that does not require the operator to push extra hard to engage the driver to prevent camout.

For a precise positioning, we might select a shoulder screw with tight tolerances on the size, surface and position (TIR) of the shoulder relative to the axis of the screw.

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ADVANCE COMPONENTS & VOGELSANG FASTENER SOLUTIONS - BUILDING CONNECTIONS TOGETHER

Advance Components is now the master stocking distributor of Vogelsang Fastener Solutions (VFS). Vogelsang is a worldwide leading manufacturer of formed metal parts and is one of the world's largest producers of Spring Pins, both slotted Rollpins® and coiled pins.

Advance will carry a large stock of VFS Rollpins®

and Coiled Spring Pins for distributors across the U.S., Canada and Mexico. VFS is known for its metal forming technological concepts, innovative capabilities and the consistent high quality of its products in the industrial market.

"We are thrilled to be partnering with Advance

Components and having them be our master-stocking distributor," says Nick Penney, Business Development Manager at VFS. "Our current and new customers will benefit greatly from Advance's application support team, state-of-the-art warehouse and custom shipping and packaging solutions."

VFS is a German-owned private company that has manufacturing facilities in Lakewood, N.J.; Mount Sterling, Ky.; Hagen, Germany; Prague and Paris.

VFS Rollpins® are hollow cylinders slit longitudinally over their entire length to permit compression during insertion, thus giving them their unique self-locking qualities. Chamfered edges facilitate insertion without disrupting the hole diameter or tolerance in any way. They are formed from special spring steel of high elasticity, resilience and wear resistance. These fasteners simplify product design, increase product reliability, reduce production costs and rejection losses. VFS Rollpins® are

> stocked in Inch (1/16" to 1") and Metric (1MM to 50MM), in a variety of materials, specifications and finishes.

> VFS Coiled Spring Pins enhance their all-purpose fastening characteristics by virtue of their construction. Light thickness material is wrapped around approximately 2.25 times, producing a more

resilient and versatile component. VFS Coiled Spring Pins are stocked in Inch (1/16" to 3/4"), and Metric (1MM to 16MM), and in a variety of materials, specifications and finishes.

Advance Components is proud to add VFS Rollpins® and Coiled Spring Pins to its list of quality products that are available for same-day shipping, low minimums, drop shipping, EDI planning and other value-added solutions that make Advance a trusted supply chain partner. Contact Advance today for more information about VFS products and other quality fastening solutions.



LAURENCE CLAUS WHY FASTENERS FAIL PART 2 - OVERLOAD, FATIGUE AND CREEP from page 126

Now imagine that one of those eight bolted joints was improperly tightened and its entire preload is lost, see Figure 2. The result is that the load carried by this joint is shifted to the other seven joints, guite likely in a disproportionate fashion. This may cause another joint to fail and continue the load shifting until a point is reached where the remaining, intact, joints are all overloaded and immediate failure of the fasteners occurs. For this reason, those conducting failure analyses must be careful to draw conclusions only from the available facts. In my example above, if an analysis was only conducted on two of the eight fasteners and both were found to have failed due to overload, it would be dangerous to conclude that the root cause was overload because the analysis did not examine or gain any evidence of what happened with the remaining six joints. Therefore, a good failure analysis will stick with the facts and not attempt to draw conclusions if the evidence doesn't exist for it.



FIGURE 2: EXAMPLE OF A PIPE FLANGE WITH FAILED JOINTS

Fatigue

Once again the word fatigue aptly describes this type of failure, as essentially the part or material is progressively weakened over time to the point where it fails. Fatigue is particularly insidious because it generally does not exhibit any visible signs prior to failure. For this reason, fatigue prone systems, such as aircraft must be periodically inspected using techniques that expose progressive signs of cracking and other surface defects.

So, just what is fatigue? It is a progressive failure that results from dynamic loading. This means that the part is exposed over time to repeated load reversals or the loading up and then releasing of the load. The frequency of the application of the load and its intensity will play an important role in the longevity of a part once the process is initiated. A system that experiences very low intensity loading but many applications of the load is known as high cycle, low intensity fatigue. Most fasteners that undergo fatigue testing in the lab are exposed to high cycle, low intensity fatigue. These testing machines are able to apply thousands of small load applications in a short time, so that a fastener may be tested several million cycles in the span of a few days. On the other hand, low cycle, high intensity fatigue normally results in fast failure because the stress intensity is exceptionally high for the part.

Take for example bending a coat hanger back and forth in an effort to break it. If the hanger is bent past ninety degrees each time, it breaks after only a few bends. An analogous fastener fatigue failure is the reverse bending fatigue that occurs on the right hand side wheel studs when the lug nuts are improperly tightened and come loose. Although the load intensity is not as severe as the coat hanger example, the rotation of a loose right wheel against the mounting studs causes the stud to deflect up and back down with each full rotation of the wheel. If not discovered in time, the studs will eventually fatigue and break.

Fatigue goes through three stages, initiation, propagation, and fast failure (overload). Initiation is the stage where a crack begins to form. The initiation site is usually some sort of flaw or imperfection that locally exhibits lower strength than the surrounding area.

This could be anything from a stress riser due to a surface imperfection or sharp transition to some sort of internal flaw like a material inclusion or non-uniform heat treating. Additionally, flaws like folds, cracks, thread laps and conditions like decarburization are notoriously dangerous in parts that are fatigue risks.

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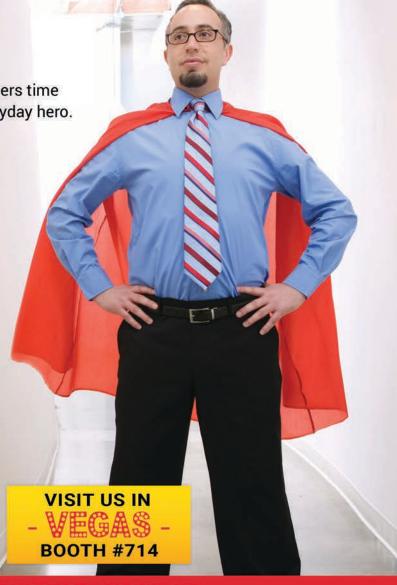
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RICHARD HAGAN FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE FIRST HALF OF 2017 from page 155



On March 31, 2017, SouthernCarlson Inc.

purchased River City Building Supply Inc. ("River City"). Founded in 2001 and headquartered in Sacramento, California, River City is a distributor of fasteners, fastening power tools and a broad range of construction supplies for the residential and commercial construction markets. The company carries numerous premier fastener and power tool brands including Simpson-Strong-Tie, Hitachi, Dewalt, Powers Fasteners, Senco and many others. River City has three branch stores in Livermore, Modesto and San Jose, California. SouthernCarlson is a super-regional distributor of fasteners, power tools, packaging equipment & supplies and construction supplies & consumables. The company is headquartered in Omaha, Nebraska, employs more than

900 people and operates more than 150 stores / locations

across the United States. SouthernCarlson is a portfolio

company of Kelso & Company, a New York City-based

private equity firm with more than \$11 billion of assets

Purchase price: not available

under management.



On April 1, 2017, Lesjöfors AB purchased Spiros AB. Founded in 1989 and located in Bromma, Sweden, Spiros is a

manufacturer of specialty springs, wire forms and stamped metal components. The company supplies electronics, high technology, appliance and general industrial customers concentrated in the Nordic region and Western Europe. Spiros generates annual net sales of SEK 7.0 (US\$0.9 million) and following the transaction closing its operations will be transferred to Spiralspecialisten, a wholly-owned subsidiary of Lesjöfors located in nearby Tyresö, Sweden. Founded in 1852 and headquartered in Karlstad, Sweden, Lesjöfors is a global manufacturer of springs, wire forms and stampings. The company has 24 manufacturing plants in 12 countries and employs 1,600 people worldwide. In calendar 2016, Lesjöfors generated net sales of SEK2.0 billion (US\$248 million). Lesjöfors is a wholly-owned subsidiary of Beijer Alma AB (Nasdaq OMX Stockholm: BEIA). Headquartered in Uppsala, Sweden, Beijer Alma is a manufacturer of specialty springs & cables and a distributor of industrial supplies & consumables.

Purchase price: not available



On April 4, 2017, Audax

Fastener Distribution Holdings LLC ("FDH"). Headquartered in Marina del Rey, CA, FDH is a distributor of aerospace fasteners and is comprised of Aircraft Fasteners International LLC and Arlington International Aviation Products LLC. Founded in 1964, AFI is a stocking master distributor of aerospace-quality nuts, threaded inserts, wire thread inserts and key-locking studs. Founded in 2002, AIAP is a full-line distributor of aerospace fasteners and consumable hardware, supplying commercial and military OEMs and their subcontractors. AIAP also provides its customers with kitting and customized packaging services. Founded in 1999 and headquartered in Boston, MA, Audax Group is a diversified investment firm with three business platforms - private equity investments, mezzanine finance and senior debt finance. Audax Group manages more than \$11.5 billion of assets. The seller of FDH was Housatonic Partners, a San Francisco-based private equity firm with more than \$1 billion of committed capital under management.

Purchase price: not available



On April 24, 2017, **HEICO** Corporation (NYSE: purchased 80.1% of the equity interest of LLP Enterprises LLC,

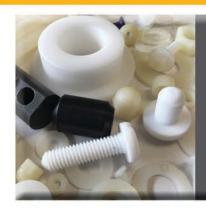
doing business as Air Cost Control. Founded in 2000 in Sunrise, FL, Air Cost Control is a distributor of aviation electrical interconnect products such as connectors, wire & cable, fastening systems and harnesses, along with a wide range of electromechanical parts. In addition to the FL warehouse, there are branch warehouses in Toulouse, France and Hamburg, Germany. Air Cost Control employs over 130 people and generates annual net sales of approx \$80 million. The two founders will retain 19.9% equity ownership and continue to manage the company. Founded in 1957 and headquartered in Hollywood, FL, HEICO is comprised of the Flight Support Group and the Electronic Technology Group. The Flight Support Group is a distributor, manufacturer and refurbisher of FAA-approved aftermarket aircraft replacement components. The Electronic Technology Group manufactures electrical and electro-optical systems & components for the aerospace, defense, communications and computer markets. HEICO employs around 4,700 people and generated net sales of \$1.38 billion in the 12 months ended October 31, 2016.

Purchase price: \$80.8 million (for 80.1% ownership)





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GUY AVELLON WHAT FASTENER DISTRIBUTORS NEED TO KNOW ABOUT WASHERS from page 130

Some washer manufacturers will have an 'MC' stamped on them to identify hardened washers as 'mill carb'. Most are not plated and are furnished with a black heat treat oil finish. Some private label distributors will have these flat washers identified with their own unique markings.

For the MRO industry, it is common to offer some type of shelf life to the customer in the form of a protective coating. Many of the 'plain' washers are silver in color from the zinc plating. Many of the premium hardened washers are also plated with zinc but have a yellow chromate color. Another option, to assure prevention of hydrogen embrittlement, is to apply a mechanical zinc coat.

Mechanically applied coatings are formed with impinging metal or glass beads on to the parts in a metal slurry. The effect produces a thick, corrosion resistant coating that has a matte finish. Figure 4 will illustrate the dimpling effect in an extreme condition. Normally, the products will be more smooth and not as pock-marked.



FIGURE 4

In the automotive industry, all Grade 8 or 10.9 fasteners have SAE hardened flat washers under the head or nut. Since these fasteners are virtually stronger and harder than the materials they clamp, it is extremely important these fasteners are fully supported under the head with a washer that is harder than the bolt.

Sometimes, being harder isn't going to correct inappropriate installation technique and application. Figure 5 are two hardened machinery washers that were still destroyed by means of an impact gun.



FIGURE 5

Many ASTM F436 flat washers are still marked and identified with the 'F436' standard designation, although it was recently voted by the ASTM Fastener Committee that they do not need to mark them as their size would identify them. The F436 flat washers have a slightly larger ID than the SAE washer, but not as large an OD as the USS washer dimensions. This is to accommodate the larger head and nut dimensions of the A325 and A490 structural bolts and 2H nuts.

Many times, when structural bolts are used on harder steel joints, a flat washer is not used under the bolt head due to the wider heads of structural bolts. However, the washers are used against the nut to provide a smoother surface to turn the nut.

Final Thoughts

- Do not try to fit two different diameters of bolts into one size USS flat washer. It will work for some sizes but will be extremely tight against the larger bolt. This may interfere with the fillet area under the bolt head and cause possible increased head stresses and failure.
- Use hardened flat washers with all Grade 8 (10.9) fasteners. It is also recommended for use with Grade 5 (8.8) fasteners as well.
- Use SAE flat washers to provide full contact and support with all high strength fastener applications.
- Always use an SAE flat washer under the bolt head and nut on standard fasteners.
- Even an impact wrench can damage a hardened flat washer when being assembled at full impacting speed. Slow down.

distributor**news**

The **Advance Components** Team is proud to announce the launch of our new company logo as part of the ongoing evolution of our brand.

ADVANCE COMPONENTS

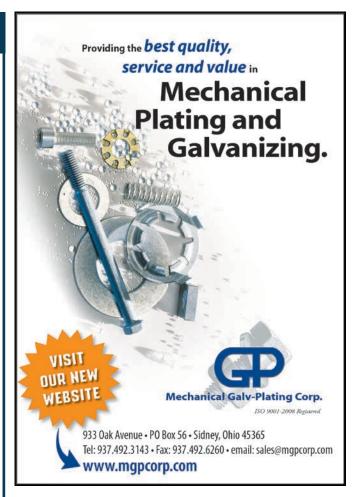
Our business has grown and developed during the last 45 years, and while times have changed, our commitment to our customers has not. Our team is fresh-faced, but experienced. Our distribution strategy is new and improved. And our supplier/customer base is continuing to grow and demand new things from us.

We believe the new look matches what we've become since 1972: a valued supplier of quality fastening solutions for customers who want superior service and products to help them succeed. It also points to where we're going with a future-forward plan to provide our clients with custom products, analytics and solutions to maximize their profitability.

As a true channel partner, we remain committed to building our business around the needs of our customers. We listen, we hear you, and we respond. We're excited about the future. We like our new look, and we hope you do, too.

Advance Components is a master-stocking distributor of high-quality specialty fastener products. Advance offers its customers value added engineering-based solutions and services and the highest-quality products. Our headquarters and sales offices are located in Carrollton (Dallas), TX.

For more information contact Advance Components at 2920 Commodore Drive, Suite 100, Carrollton, TX 75007. Tel: 1-800-275-7772, email: sales@advancecomponents.com or visit them online at www.advancecomponents.com.





FASTENER FAIR EXHIBIT SALES STRONG FOR UPCOMING FASTENER FAIR USA from page 134



The show provides them with a unique opportunity to collaborate with exhibitors on solutions for their business as well as get the latest industry information, forecasts, and technical education through keynote sessions and breakouts.

Since the show is designed to offer something to everyone in the fastener and fixing supply chain, distributors and wholesalers won't want to miss this inaugural 2-day event either.

Why Exhibit?

The show provides a unique opportunity for exhibitors to meet with new and existing customers, find distributors or wholesalers, identify engineering opportunities including OEM buyers looking for fastener and fixing solutions, and network with fastener and fixing industry professionals throughout the entire supply chain.

Over 200 exhibitors from around the world are expected to participate in the inaugural Fastener Fair USA 2018. The main product categories that exhibitors represent include:

- Industrial fasteners and fixings
- Construction fixings
- Assembly and installation systems
- Fastener manufacturing technology
- Storage, distribution and factory equipment
- Information, communication and services
- Fastener Production Machinery plus Tool & Die and Supplies

In addition, Fastener Fair show management has a track record of working hard for their exhibitors. They execute a targeted marketing plan designed to bring the most qualified visitors to the event, using tactics such as direct mail, e-marketing, digital and print advertising, and relationships with key media and association partners. Their goal is to bring qualified customers to their exhibitors' booths for a superior ROI on their trade show marketing. They also plan to offer exclusive, technical education sessions to make Fastener Fair USA their top trade show of the year, giving you access to unique customer interactions.

Specifically, Fastener Fair USA will help you promote your brand and products with:

- Online marketing opportunities that give exhibitors exposure before the show even starts:
- Education that helps prepare exhibitor staff for a successful Fastener Fair USA;
- Lead retrieval services to qualify prospects quickly and easily during the show to close the sale after the event.

About Mack Brooks

Fastener Fair USA is organized by Mack Brooks Inc., a subsidiary of the Mack Brooks Exhibition Group based in St. Albans, UK, which has branches and partner companies in France, Greece, Italy, Poland, Russia, India, China and the USA.

The Mack Brooks Exhibitions Group has been organizing industrial trade fairs around the world for almost 50 years. As a privately-owned, independent and professional show organizer, the company organizes a program of highly specialized trade exhibitions throughout Europe, Asia and the Americas, in the fields of engineering, transport, metalworking, information technology, textiles, food and beverages, railways, construction, tunneling, printing, converting, airport management and aviation.

The Group also publishes related directories, magazines, sector reports and Internet sites. Visit Mack Brooks Exhibitions online at www.mackbrooks.com.

To learn more about Fastener Fair USA visit www.fastenerfair.com/usa or call 1-866-899-4728.

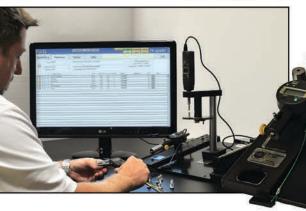


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SERVICE

CARVER FACT CENTER Q&A WITH CARMEN VERTULLO from page 144

Our shop area includes the CNC machine shop, welding areas, and space for product testing, while our lab provides space for torque-tension testing, hardness testing, dimensional inspection, and some special tests and inspections. We can host hands-on technical training for any of the equipment in our shop and lab, and can also conduct fastener technical training on-site or arrange for a seminar at a convenient location. We can even develop custom training built around specific needs.

Our goal is to actually equip our clients to solve their own problems and do their own testing. We are happy to do the work for them, but would much rather help them to acquire and use the tools necessary to work with their specific fastener issues on their own.

You mentioned strategic partnerships earlier... how do those factor into what you're able to accomplish?

Our partners are an absolutely vital part of the Carver FACT Center: they help us leverage our technical expertise into business opportunities as we help them with solutions, training, exposure, and sales opportunities.

First - Our Client Partners. We make it a point to partner with clients who are part of our On-Call Consulting program, which forms the foundation of our financial support. In turn, they enjoy priority service, often at no cost, for consulting, testing, training, and product development services. Our On-Call-Consultant



HANDS-ON LEARNING WITH THE ELECTRONIC ROCKWELL HARNESS TESTER



HANDS-ON LEARNING WITH THE ROCKWELL HARDNESS TESTER

clients have priority pre-paid access to the Carver FACT Center for any and all kinds of fastener help they may need. This allows us to respond quickly without the need for a proposal or quotation.

Our Equipment Partners station tooling, testing, and inspection equipment at our facility which enables us to provide students and clients with a hands-on learning experience. As part of our mission we want to help fastener suppliers help themselves, so we encourage them to develop their own in-house capability for fastener inspection and training. These partnerships allow our equipment providers to use the FACT Center as a strategic outpost for discrete sales and training events as well. Companies like Skidmore-Wilhelm and Greenslade & Company, Inc. have been invaluable in this regard.

Our Technical Expert Partners include consulting colleagues, testing laboratories, manufacturers, materials suppliers, and secondary processors whom we turn to (and who turn to us) when a special need or problem arises that would benefit from collaboration. Professional relationships like these are part of what allows the Carver FACT Center to provide in-depth analysis and consultation on some of the more challenging fastener problems we've seen, as well as customize complex solutions for very specific needs. Salim Brahimi of IBECA Technologies Corporation is one of our valued Technical Expert Partners.

PAC-WEST 2017 FALL CONFERENCE WHISTLER, BRITISH COLUMBIA - AUGUST 24-26, 2017 PHOTO CREDIT: GREG CHRISTENSEN



NIFMSE HALL OF FAME AND YOUNG FASTENER PROFESSIONAL AWARD WINNERS ANNOUNCED from page 138

Adam's global dedication to the fastener industry is evident through the Automated Fastener Assembly Systems Group (A-FAS), a group he founded to combine new technologies and development of strategic global partnerships. This innovative model provides a single contact for eight worldwide facilities that together can offer turn-key solutions with fasteners, hand tools, modules, and automation cells.

Adam participates in leadership within all of these groups to enhance the fastener industry because he believes true leadership is most effective within personal relationships. "I like being able to work with and get to know people personally, to guide the industry from within," Pratt remarked.

The Fastener Show's unique ability to recognize leaders like Adam Pratt is part of what sets the annual meeting apart from other shows. "What the committee really likes to see in the Young Fastener Professional of the Year is that unique combination of innovation and early leadership. Adam is on the cutting edge of solutions, but he's also not shy to share his success so that others in the industry can adopt similar models. He's truly the kind of young professional made for this annual award," noted Courtney Harold of Emerald Expositions, the operator of The Fastener Show.

About The Fastener Show

Held annually in Las Vegas, NV, The Fastener Show (previously NIFSME) is the largest fastener expo in North America. Since 1981, the event continues to



bring together all participants in the fastener supply and distribution chain. The event consists of a multiple-day conference program, a show floor with more than 600 exhibiting companies from around the world, the only industry-wide Hall of Fame and Young Professional Award Ceremonies, and an education program focused on current industry challenges.

The Fastener Show is owned and operated by Emerald Expositions, the largest operator of business-to-business trade shows in the United States, with most of our shows dating back several decades. We currently operate more than 50 trade shows, including 31 of the top 250 trade shows in the country as ranked by TSNN, as well as numerous other events. Our events connect over 500,000 global attendees and exhibitors and occupy more than 6.5 million NSF of exhibition space. We have been recognized with many awards and accolades that reflect our industry leadership as well as the importance of our shows to the exhibitors and attendees we serve.





distributor**news**

Wrentham Tool Group is very pleased to announce Gerold Ross is joining the WTG sales team and will serve as our international representative based out of Germany. Gerold is an independent agent with FastCon Engineering and with over 40 years in the industry, will assist in bridging the gap between our overseas customers and our US facility. Having a personal presence in the international market will serve as a source of security for customers Wrentham does not typically have one on one contact with.



"Wrentham Tool Group is very pleased to bring Gerold Ross on staff to bring a more technical presence to our European market. Wrentham desires to be able to solve customer technical needs immediately and Gerold's vast experience in fastener engineering allows us to fill that void. We truly look forward to the positive impact that Gerold will have on all aspects of Wrentham's future business in the European fastener tooling market" stated Tim Cash, President of Wrentham Tool Group.

Wrentham Tool Group is the global leader for fastener tooling and gage technology since its' founding in 1948 as Wrentham Steel Products. WTG's mission is to provide world-class quality, value pricing and unparalleled customer service.

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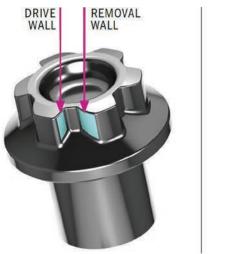
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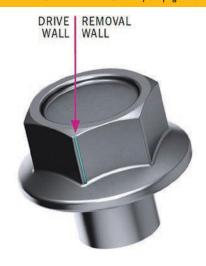




MICHAEL MOWINS MAXIMIZING DRIVER TOOL CONTACT TO OPTIMIZE FASTENER INSTALLATION AND REMOVAL from page 146







THE ASYMMETRIC LOBES OF THE EXTERNAL MORTORO® SUPER BOLT HEAD PROVIDE LARGE CONTACT SURFACES WITHOUT THE TALL HEAD HEIGHT REQUIRED FOR HEX AND 12 POINT HEAD BOLTS.

The increased removal wall area provided enough torque transmission to assure that the fasteners could be removed even when it took twice the torque to remove them than it did to install them. Because the unique curved wing walls provided so much contact area the depth of the recess could be reduced, making it ideal for the 100° flush head fasteners and the newer 130° flush head being adopted in composite applications.

Leading innovators were quick to test the new drive system and found applications for it on platforms ranging from commercial aircraft, military aircraft, space craft, and jet engines. An additional benefit was discovered when aircraft maintainers inadvertently damaged the head of a MORTORQ fastener with an incorrect tool, but found that they could still remove the fasteners with the correct MORTORQ driver. The large contact area on the removal wing wall made the system very damage tolerant.

Once the concept had proven itself in the aerospace world, it was time to see if the benefits could translate to industrial and automotive fastener applications. Initial automotive applications with the original design provided some improvement, but the requirements for long tool life on the production line were a challenge. In aerospace fastener applications, it is always best if the weak link in the system is the driver bit because if a maintenance mechanic breaks the bit they can always get another from the tool box. If the recess is the weak link and when it is damaged the stuck fastener must be drilled out requiring the aircraft to be taken out of service resulting in lost operating time and revenue. In automotive and industrial applications, it is preferable to almost perfectly balance the capability of the driver and the recess. The result is that the driver is quite strong and will last a long time keeping the assembly line running without unintended shut downs. This required a modification to the original MORTORO design to balance the driver and recess potential. The result was the MORTORQ Super high strength spiral drive system where the shorter broader wings of the driver tool are balanced with the added torque capability that the unique curves wings provide.

In one automotive application the MORTORQ Super system replaced a hex lobe drive fastener and driver. The hex lobe system had bit failures that occurred between 5 and 11 times per shift in a tough application on a seat track. When the MORTORQ Super fasteners and drivers were used the driver failures were virtually eliminated and preventive maintenance bit changes were done once a week to avoid unscheduled line stoppages. The success of this system has spread through high performance racing, transmission applications and various industrial and automotive tier assemblies.

Once the high strength spiral had proven itself in the recess, it was time to look at externally wrenched bolts to see if similar benefits could be achieved.



MICHAEL MOWINS MAXIMIZING DRIVER TOOL CONTACT TO OPTIMIZE FASTENER INSTALLATION AND REMOVAL from page 200



BECAUSE OF THE INCREASE IN CONTACT ARE THE HEIGHT OF THE FASTENER IS REDUCED AND THE MATING MATERIALS THICKNESS CAN ALSO BE REDUCED.

Taking the unique high strength spiral geometry and applying it to the exterior of the bolt head resulted in the newest member of the MORTORQ family, the External MORTORQ Super bolt head. The improved mating surfaces of the six external spiral drive lobes provide the maximum contact area between the bolt

head and the socket. Because the contact area is very large the height of the bolt head can be reduced from that of the traditional hex head, or 12 point bolt, resulting in significant weight savings. Initial applications targeted for the new bolt design include jet engines, automotive engines, transmissions, and structural bolts in numerous applications. The high torque transfer capability of the design make it ideal for critical bolted joints where the integrity of the joint must be assured; but also where the added contact area on the removal walls of the lobes provides the assurance that the joint can be disassembled for service or end of life recycling. Throughout the development of the MORTORQ spiral drive family of designs it has become clear that the most critical feature of an optimized fastener drive system is the contact area between the driver tool and the fastener. Maximizing the contact area has proven to be the best way to assure long driver tool life and superior recess and bolt head torque transmission.

MOUNTZ INC. DEMYSTIFYING TORQUE: WHAT YOU SHOULD KNOW from page 150



Reducing worker fatigue also has to be considered in achieving production line consistency and reducing the lost time costs associated with repetitive use injuries. When fatigue occurs due to high repetition or strenuous effort, torque control tools are available which improve ergonomics and reduce the effort for consistent torque application. When planning a production area, it pays dividends in the long term to plan the ergonomics of the operation and consult a health and safety inspector or ergonomic manager. Ensure both the workplace and the assembly operation are compatible with the majority of operators who will work there. This can reduce future costs arising from work-related health disorders among operators, along with costs arising from poor product quality. Also, the need to redesign the production system later may be avoided

A wide variety of tools are available to control and measure the amount of torque applied to fasteners. These "torque control tools" utilize calibrated torque setting mechanisms that may be factory pre-set, or userdefinable. When the specified torque setting is reached, the tool provides a visual, audible, or tactile signal.

For low production applications, or to verify torque out in the field, manual torque wrenches are available that may have dial indicators, emit an audible click, or slip when the specified torque value is achieved. Manual screwdrivers work on the same principle by providing a slipping sensation when the specified torque is reached. Electric or pneumatic screwdrivers can be incorporated into workstations to speed up production and reduce repetitive motion injuries and carpal tunnel syndrome.

For large fasteners in industrial applications, manual and powered torque multipliers are often used to replace impact wrenches. Torque multipliers are available that can deliver over 30,000 ft. pounds of torque, with precision.

Another variable to be considered is whether torque will be applied statically or dynamically. Static torque is applied by hand and occurs relatively slowly. Dynamic torque is applied with a power tool at a high rate of speed. More tension is normally generated by dynamic torque than static at a given torque setting, because of the momentum generated by the tool's motor and gear assembly (inertia) and the lower coefficient of friction.

Varying loads and vibrations represent a special challenge for threaded fasteners. Since a properly torqued threaded fastener is always under steady tension in connecting two mated components, it is virtually immune to fatigue. However, if the initial bolt tension is to low, the bolt will vibrate loose or break and the joint will quickly fail.

When determining correct torque specifications, the engineer must take several more variables into consideration. The first consideration is the maximum load that may be placed on the fastener, the second consideration is the strength of the material that is being joined and the third consideration is whether the joint is hard or soft. A hard joint connects materials together directly.





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MOUNTZ INC. DEMYSTIFYING TORQUE: WHAT YOU SHOULD KNOW from page 202

In this case, the fastener rotates very few degrees, after it comes in contact with the material, to develop full clamping force. A soft joint might contain a gasket. In this case, for the same torque setting,

a fastener goes through more degrees of rotation before it generates full clamping force.

Controlling torque essential for companies to ensure their product's quality, safety and reliability isn't compromised. The failure of a three-cent fastener that isn't properly tightened can lead to catastrophic or latent failures. Fasteners that are insufficiently torqued can vibrate loose and excessive torque can strip threaded fasteners. Using a quality torque tool has become increasingly important for many companies to ensure that proper torque is being applied and maintains gauge requirements associated with the ISO 9001 Quality Standard.

Mountz is a specialist in torque. We design and manufacture torque control products, including torque analyzers, torque testers, torque sensors, torque wrenches, electric screwdrivers, torque screwdrivers, torque multipliers, assembly tools, screw counters, assembly verification products, process control products and customized products for non-standard applications.

Mountz provides torque tool solutions to a variety of industries like aerospace, automotive, electronics, energy, medical, packaging and more. Controlling torque is essential for companies to ensure their product's quality, safety and reliability.

Mountz Product Line includes **Torque** Tools, Torque Testers, Torque Sensors, Torque Screwdrivers, Torque Wrenches, Torque Analyzers, Electric Screwdrivers, Pneumatic Screwdrivers, **Torque Multipliers and more.**

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KEVIN MILLER ELECTED NFDA PRESIDENT FOR 2017-2018 by Vickie Lester

Kevin Miller of Bamal Corporation (Charlotte, North Carolina) was elected as the 2017-2018 president of the National Fastener Distributors Association. Kelly Cole of Hayes Bolt and Supply (San Diego, California) will serve as vice president, Adam Pratt of Sherex Corporation (Tonawanda, New York) is again the associate chair, and Marc Strandquist of The Wurth Group (Indianapolis, Indiana) will remain on the Board as immediate past president.

Two new Board members were elected to serve on the NFDA Board: Bruce Hayes of Sems & Specials (Rockford, Illinois) and Doug Ruggles of Martin Fastening Solutions (Florence, Alabama).

Continuing on the NFDA Board are Kevin Godin of AFC Industries (Fairfield, Ohio), Rich Megliola of Vertex Distribution (Saint Charles, Illinois), Jennifer Ruetz of AIS-AII Integrated Solutions (Franksville, Wisconsin), Jun Xu of Brighton-Best International (Santa Fe Springs, California), and Dan Zehnder of Trinity Logistics Corporation (Waukesha, Wisconsin).

The new Board was introduced at the NFDA 2017 Annual Meeting, held June 20-21, in Boston, Massachusetts.



BRUCE HAYES (LEFT) & DOUG RUGGLES (RIGHT)



KEVIN MILLER (LEFT) & MARC STRANDQUIST (RIGHT)

The Annual Meeting also included:

- ¤ An economic update presented by Alan Beaulieu of ITR Economics
- a A report on conflict minerals reporting requirements by Lawrence Heim of Elm Sustainability Partners
- a A panel on Fastener Quality and Compliance with
 - Michael Lentini of Spirol International
 - Rob Girdley of Wurth Industries North America
 - Erich Molloy of Soule, Blake and Weschler
 - Michael Woznicki of Spirol International
- m Email Productivity Tips from Eddie Bader of Company Built (a Microsoft Community Connections partner)
- using Value Analysis/Value Engineering to Enhance Customer Loyalty by Randy Lammers of Wurth Industry Group

Tribute was paid during the NFDA annual meeting to retiring Board members Gary Cravens of Advance Components (Carrollton, Texas) and Casey McIlhon of Assembled Products (Des Moines, Illinois).

During the annual business meeting, Kevin Miller gave an update on the association's activities during the past year and plans for the coming year.



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14th ANNUAL MAFDA GOLF AND SCHOLARSHIP CLASSIC by Lee S. Johnson, Jr. (Golf Co-Chair)

History was made this year when a foursome consisting of Vic LaPoma (Kanebridge), Dave Schuster (Shuster & Associates), Dennis Shanahan (Mutual Screw & Supply) and Bob Elko (Hardware Specialty) - recorded an unbelievable 18 under to win this year's event. This broke the course record at Downingtown CC and our own record which was 12 under par. Congratulation guys!

Finishing a distant second was the team of Kenny Wilson (Lee S. Johnson Associates Inc.), John Conte (Fall River Manufacturing), Brian Gabbett and Lee Johnson Jr (Lee S. Johnson Associates Inc.) with a score of 10 under. Third place went to the team comprised of Freddy Barr (Stelfast), OJ Simpson (Stelfast), Anthony Destasio (Joe Fazzio & Sons) and Tom Cusano (Haydon Bolt). This team shot a respectable 8 under.

Closest to the pin awards went to Patrick King, Dennis Shanahan, Bob Elko, and Anthony Destasio. Longest drive prize went to Patrick King as well.

We would like to thank all of our hole sponsors, raffle prize donors and event sponsors We would also like to thank R & D Fasteners for the Trophies again this year.







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Scholarships went to the following children of our industry:

Jamie Gates - Sems & Specials \$3000.00 Dylan Laraba - Specialty Resources Inc. \$2000.00 Shae DeVito - Solutions Ind. \$2000.00 **Makena Hanson -** Hanson Group \$2000.00 Hallee Tripp - Fall River Mfg \$2000.00

Thanks again to all the Board Members that helped out in this year's event:

Barb Shimer

sales@schnorr.com

www.schnorr.com

Jeannie Kondraski

Tammy Work

Lee Johnson, Jr.

Trish Murty

David Myers

Billy Bankoske



BENGT BLENDULF HOLDING OUR WORLD TOGETHER from page 186

Keep in mind that this type of screw can be tightened against the shoulder rather than the head, thus creating no or very little tension in the shoulder part. On the other hand, tightening it against the head, the tension load is limited by the "weaker" threaded section.

For all low work load applications, the joint can still be subject to vibration loosening. Since machine screws are not tightened to high clamp loads, that can by itself prevent loosening, we may have to use chemical or mechanical accessories to combat vibrations.

High Work Loads

When faced with high external forces in our designs, we have to know both the magnitude and direction of those forces. Most highly stressed joints, where parts are relatively thick and stable, are designed so that external forces are mainly parallel to the axes of the fasteners. This way we are able to put the fastener in high enough tension (by tightening) to create a clamping force in the joint that is larger than the external load acting on the joint. If, for example, the head bolts (actually head screws) in a car engine are not tightened properly, the pressure from the internal combustion would leak past the head gasket.

It is not always possible to design in tension. If the parts being joined are very thin or soft (like aluminium on an airplane wing) we cannot clamp very high, but will have to design in shear so that forces are acting across the fastener axis. Combinations of both high tension and shear forces always require much stronger fasteners than pure tension loads.

You may ask yourself how strong the fasteners should be. We have many choices from low carbon to alloy steels. Using very strong fasteners in a weak joint would not only be poor engineering but also economically unsound. There should always be a balance in strength within a mechanical joint. Using a higher grade or property class than needed can lead to unwanted problems such

as stress corrosion cracking, lower impact strength, hydrogen embrittlement, load losses due to embedment, etc. Stronger does not necessarily mean better! Always look at the contact pressure between the head or nut surface against the clamped materials. If a flange screw is used, it is possible to use a higher strength class even if the substrate would not accept the pressure from a regular hex or socket head.

Select fasteners with head styles/drive systems that are suitable for the product being manufactured and available in the field for service. Again, vertical driving walls (hex heads, hex sockets, 6-lobes, 12-splines, etc.) provide good contact with the driving tool and make assembly work ergonomically preferred. Avoid internal drives if the work environment for the design is dirty. A socket filled with dirt can be difficult to clean out in the field for service and repair.

Finally, if the joint is subject to vibrations, we must use fastening methods that would keep our equipment from falling apart. Maintaining proper clamp loads by eliminating joint relaxation is a reliable method, but sometimes we also need to look for additional "locking" accessories. Keep in mind that the word "lock" in the name of a product does not necessarily mean that it will work in your joint. ASME has very wisely put it this way in its standards:

"The word lock appearing in the names of products in this standard is a generic term historically associated with their identification and is not intended to imply an indefinite permanency or fixity in attachments where the fasteners are used".

There is, of course, much, much more to successful joining like knowing material data, joint geometry, magnitude and direction of external forces, selection of proper strength classes and tightening, but starting with the right type of fastening device for the job is always a great idea.

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LAURENCE CLAUS WHY FASTENERS FAIL PART 2 - OVERLOAD, FATIGUE AND CREEP from page 188

For these reasons, parts that are to be used in a fatigue environment, like many aerospace fasteners, are manufactured with great care when it comes to the raw material used and the final surface condition or workmanship on the parts. A number of common practices are employed by fastener manufacturers to reduce the risk of fatigue. Several of the more common approaches include:

- High Material Quality Purchasing material that is "seam and decarb free" and "aerospace quality" provides a higher quality surface that won't be carried into the manufacturing process and generally a "cleaner" microstructure with fewer and smaller exogenous inclusions.
- Earge Radii Larger radii at transition points like the root of the thread and fillet reduce stress concentrations at these normally critical areas. Many parts will be designed with UNJ or MJ thread forms to take advantage of the largest possible standard root radius.
- Application of local or uniform compressive stress Cracks start in tension, therefore, if you can place a part or a localized area of a part into compression, for a crack to initiate it must first overcome the compressive stress. It is sort of analogous to water spilling over a dyke, before it can do so, it must first overcome the height of the dyke wall. As long as the height of the dyke wall is greater than the water level in the reservoir, no spillage will occur. Common applications of locally applied compressive stress include rolling the threads or the fillet radius after heat treatment. Often more uniform compressive stress can be achieved in a controlled shot peening operation.
- Increase preload Any measure that increases the pre-load and assures that the dynamic, service loading is less than the preload is key to fatigue prevention.

Once a crack is initiated it will begin to propagate. Fatigue is a progressive failure, so that propagation tak es time. In fact, the propagation stage of fatigue often produces the characteristic and unique signs that provide telltale evidence of a fatigue failure. As a part experiences a load-up situation the crack will propagate. Once the load is released, the crack propagation is arrested. It continues

to follow this pattern leaving characteristic starting and stopping marks, often referred to as Beach Marks. Often these are clearly evident on the fracture surface with the naked eye.

As a crack propagates it will begin to leave more and more fractured material in its wake. Eventually the remaining, undamaged material can no longer support the load and the part fails quickly by overload. In many applications where multiple fasteners are employed, this first failure by fatigue results in the load shifting previously discussed and the ultimate failure of the rest of the system by overload.

Unfortunately, because of misconceptions and poor installation of fasteners, fatigue failures are all too common. Fortunately this is easily preventable in well designed, highly critical joints. There have, however, been several notorious and memorable fastener failures attributed to fatigue. One of the most prominent failures caused by fastener fatigue was the 1979 partial roof collapse of Kansas City's Kemper Arena. The Kemper Arena is about a 20,000 seat indoor arena located on the Missouri side of the city. Constructed in 1973 and 1974, it quickly gained attention as the site of the 1976 Republican National Convention and several NCAA Final Four tournaments.

The Kemper Arena was designed and constructed with a unique and sophisticated steel truss supported, reinforced concrete roof system. Because Kansas City is in an area prone to tornados, the roof was designed so that it could sway a little, much like a pendulum. It was theorized that this added flexibility would aid in the performance and safety for the roof structure during high wind events.

On the evening of June 4, 1979, Kansas City was struck with a wave of severe storms that dropped a tremendous amount of rain in a very short period of time. The storm was believed to be a one in ten year event and was coupled with seventy mile per hour winds. It dropped over four inches of rain per hour. The concrete roof was supported by 42 hangers connected to several steel truss space frames. Each of these hangers was comprised of several components, including four ASTM A490 bolts.

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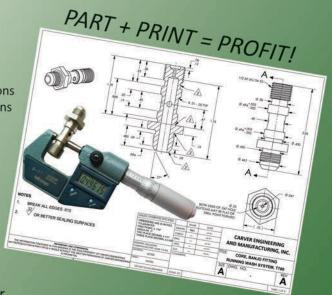
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In a design oversight, the A490 bolts were designed for static conditions and not the actual dynamic conditions allowed by the added flexibility of the roof system. Additionally and an important contributing factor, the roof had been designed to store water and gradually release it to the surrounding storm water system.

The severity of this particular storm caused a number of unanticipated events including vibrations in the roofing structure caused by wind gusts. The heavy rain fall, having limited ability to shed off the roof, began to pool and add significant weight to the roof system. This resulted in the roof beginning to sag. Adding to the problems, the strong winds from the storm caused the water to shift from the north side to the south side of the roof, resulting in significant vibration of the roof structure. This dynamic loading and added weight caused at least one bolt, already weakened by fatigue from previous wind events that caused the roof to sway, to break resulting in a domino effect of failed bolts in other roof sections and the ultimate collapse of the entire roof.

This failure would prove to be a lesson, albeit an expensive one, for future structural engineers and designers. It would later be determined that the A490



FIGURE 3: AFTERMATH OF KEMPER ARENA ROOF COLLAPSE

bolts, which were only designed for static loading, had already seen as many as 24,000 load oscillations in the six years of prior service.

Creeb

Creep is the engineering term that describes a time dependent deformation of a material below its yield strength while under an applied load. Normally one thinks of creep occurring at elevated temperatures but this is not always the case. There are multiple material examples that undergo creep at temperatures that would not be considered elevated. Take for example a spool of common solder used for copper plumbing fittings. If you unwind about a foot section and position it so that it is oriented parallel to the floor, it will very quickly start to droop. The weight of the solder provides the load required for the material to begin to creep. If you conduct this experiment long enough, the once parallel wire section will eventually hang almost ninety degrees to the floor.

Creep is not a failure mode that is common to fasteners, but it is also not non-existent either. The applications in which problems can exist are those where the fastener is held at a constant load in an elevated temperature environment for a long period of time. That makes fasteners that are in or around hot items like engines or compressors potentially susceptible.

Like fatigue, creep and the associated failure mode, known as Stress Rupture are progressive failures. This means that they occur over time, often over long periods of time. Applications that are subject to potential creep failures are usually designed with special materials that have excellent creep resistance.

Summary

Overload, fatigue, and creep are all potential ways that fasteners may fail. Understanding the way they fail in these modes and preventative measures that can be taken is an important first step in reducing or eliminating their incidence. In the next part of this series, Part 3, we will explore failures from corrosion and hydrogen embrittlement.

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On April 28, 2017, Park-

Ohio Holdings Corp. ("Park-Ohio") purchased Aero-Missile Components Inc. ("Aero-Missile"). Founded in 1948 and headquartered in Bensalem, PA, Aero-Missile is a full-line distributor of fasteners and Class components, supplying the commercial and military aerospace markets. The company's product range includes bolts, screws, pins, nuts and threaded inserts. Aero-Missile is an authorized distributor for several of the largest aerospace fastener manufacturers including SPS Technologies, Arconic Fastening Systems (formerly Alcoa), Pilgrim Screw, Bristol Industries and ESNA. The company has a branch warehouse in Oxford, Alabama. Founded in 1961 and headquartered in Cleveland, OH, Park-Ohio manufactures a diverse range of engineered products and assembly components. The company's Supply Technologies LLC business unit is a distributor of fasteners and Class C parts, specializing in providing customers with advanced supply chain management solutions. Supply Technologies operates 65 logistics service centers around the globe and generated net sales of \$502 million in calendar 2016. The Aero-Missile acquisition was completed by Apollo Aerospace Components LLC, the aerospace fastener holding company of Supply Technologies.

Purchase price: \$10.5 million



On May 10, 2017, Chicago Rivet **& Machine Co.** ("Chicago Rivet") purchased certain assets of the Rivet Division of American Jebco

Corporation. Founded in 1903 in Franklin Park, IL, American Jebco is a niche manufacturer of externallythreaded fasteners, solid & semi-tubular rivets and made-toprint specialty cold headed parts. Following the transaction closing, the production of American Jebco's Rivet Division was transferred to one of Chicago Rivet's domestic manufacturing plants. Founded in 1920 and headquartered in Naperville, IL, Chicago Rivet is a domestic manufacturer of solid & semi-tubular rivets, cold headed specialty parts and screw machine components. The company also designs and produces rivet setting machines, automated assembly systems and rivet machine tooling. The principal market for Chicago Rivets' products is the North American automotive industry. The company operates four manufacturing plants in Naperville IL, Madison Heights, MI, Albia, IA and Tyrone, PA. Chicago Rivet employs approximately 230 people and generated net sales of \$37 million in calendar 2016.

Purchase price: not available



On May 18, 2017, AFC Holdings Inc.,

doing business as AFC Industries, purchased Accurate **Fasteners Inc.** Founded in 1960 and located in Boston, MA, Accurate Fasteners is a full-service distributor of fasteners and Class C components, supplying a variety of end-markets including medical equipment, electronics, information technology and general industrial OEMs. The company provides numerous value-added services including inventory management, kitting and specialty packaging & labeling. Founded in 1967 and headquartered in Bridgeville, PA, AFC Industries is a distributor of fasteners and Class C components which specializes in providing customers with advanced supply chain management solutions. Prior to the purchase, AFC Industries operated eight distribution warehouses and was comprised of five business units: i) Advanced Fastener in Fairfield and Groveport, OH; ii) Dell Fastener in Bridgeville, PA and Marietta, GA; iii) Gateway Fasteners in Export, PA; iv) Eckart & Finard in Hartford, CT; and v) R&E Fasteners in Reno and Las Vegas, NV. Following the transaction closing, the president of Accurate Fasteners will remain with the company and manage AFC Industries' operations in New England. AFC Industries is a portfolio company of Incline Equity Partners, a Pittsburgh, PA-based private equity firm with \$300 million of committed capital under management.

Purchase price: not available.



On May 24, 2017, **Bufab AB** purchased **Thunderbolts** Group Limited ("Thunderbolts"). Founded in 1991 and located in Southampton, England, Thunderbolts is a distributor of fasteners,

Class C parts and industrial supplies to customers concentrated in the south of England. The company supplies numerous end-markets including construction, medical equipment, marine and general industrial OEMs. A privately-owned company, Thunderbolts employs 19 people and generated net sales of £2.9 million (US\$3.8 million) in calendar 2016. Founded in 1977 and headquartered in Värnamo, Sweden, Bufab (Nasdaq OMX Stockholm: BUFAB) is a full-service distributor of fasteners and Class C parts which specializes in providing customers with advanced supply chain management services. The company operates 34 wholly-owned subsidiaries in 24 countries and employs around 1,000 people worldwide. In calendar 2016, Bufab generated net sales of SEK 2.85 billion (US\$353 million). Purchase price: not available.

MAFDA 14th ANNUAL GOLF & SHOLARSHIP CLASSIC DOWNINGTON COUNTRY CLUB, PA - MAY 24, 2017



RICHARD HAGAN FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE FIRST HALF OF 2017 from page 214



On June 1, 2017, **Nautic Partners** LLC purchased

Endries International Inc. ("Endries"). Founded in 1970 and headquartered in Brillion, Wisconsin, Endries is a distributor of fasteners and Class C parts, specializing in providing customers with advanced supply chain management solutions. The company provides its predominantly OEM customer base with robust binstocking programs including automatic electronic ordering based on RFID (radio frequency identification) technology. In addition to the Wisconsin flagship location, Endries operates eight distribution centers in the United States (6), Canada and Mexico. Endries employs approximately 700 people and generated net sales of more than \$250 million in fiscal 2016. The Endries management team participated as principals in this deal and will remain in place following the transaction closing. Founded in 1986 and located in Providence, Rhode Island, Nautic Partners is an industry-focused private equity firm with \$3.3 billion of assets under management. The seller of Endries was Ferguson Enterprises Inc. ("Ferguson"), the largest wholesale distributor of commercial and residential plumbing supplies and pipe, valves & fittings in the United States. Ferguson is a wholly-owned subsidiary of Wolseley plc (London Stock Exchange: WOS).

Purchase price: not available

SPACE-LOK INC

On June 20, 2017, Novaria Holdings LLC ("Novaria Group") purchased **Space-Lok Inc.** Founded in 1962 and located in Gardena, California, Space-Lok is a manufacturer of bolts, nuts and specialty components for the commercial and defense aerospace markets. The company's extensive in-house manufacturing capabilities include cold & hot heading, CNC machining, EDM machining, thread rolling, tapping, gun-drilling, grinding and tool making. Space-Lok is an approved supplier to most of the largest aerospace OEMs and its products are used in a broad range of critical structural applications. Founded in 2011 and headquartered in Fort Worth, Texas, Novaria Group is the holding company for seven (prior to the Space-Lok acquisition) aerospace fastener and component manufacturing companies. The company's other aerospace fastener business units are: i) Elastic Stop Nut Corporation of America, doing business as ESNA (nuts, bushings & fittings); ii) John Hassell Inc. (bolts & screws); and iii) Electronic Hardware Ltd. (specialty screw machine parts). Novaria Group is a portfolio company of Rosewood Private Investments Inc., a Dallas, Texas-based private equity firm which is owned by the Caroline Hunt Trust Estate.

Purchase price: not available



Manufacturing

Corporation ("PennEngineering") purchased Whitesell Formed Components, Inc. ("WFC"), a wholly-owned subsidiary of Whitesell Corporation. WFC markets and sells its products under the well-known brand name FabriSteel™ and the company will be referred to hereinafter as "FabriSteel". Founded in 1920 and headquartered in Waterford, Michigan, FabriSteel manufactures a proprietary line of piercing, clinching and riveting fasteners for the North American automotive and transportation markets. The FabriSteel product range includes self-piercing clinch nuts, pierce nuts, rivet nuts, self-piercing rivet studs, clinch studs and rivet studs. FabriSteel operates three manufacturing plants in Waterford, Romulus and Novi, Michigan. Included in this sale was Whitesell's distribution center in Vaughan, Ontario, which is known as "Whitesell Canada". Founded in 1942 and headquartered in Danboro, Pennsylvania, PennEngineering is a designer and manufacturer of highlyengineered fasteners used primarily for sheet metal fabrication and plastic applications. The company's branded and proprietary products include nuts, threaded inserts, screws, pins, studs and standoffs, along with installation tools and equipment. PennEngineering is a portfolio company of Tinicum Inc., a New York Citybased private equity firm with more than \$1.6 billion of committed capital under management.

Purchase price: not available 🔿







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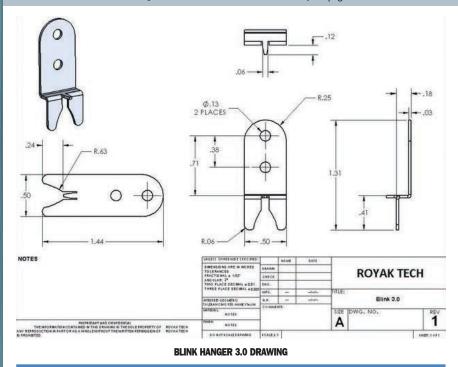
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CARVER FACT CENTER Q&A WITH CARMEN VERTULLO from page 196



Association Support Partners are clients who have made it a priority to stay informed on changes to specifications and standards that affect their products. They partner with us by funding our participation as members of fastener standards organizations and technical committee service in organizations that have influence in the fastener world—ASTM, RCSC, ASME, ISO, IFI, ASM, ASQ, PWFA, NFDA, FTI, NFDA and others. Our Association Support Partners also have a voice in these organizations through our participation in them when they cannot participate directly themselves. Through these partnerships we're able to engage the industry-wide network of professionals and resources to the benefit of our clients, and contribute to the fastener community at large.

Before we wrap up, what else do you want us to know about the Carver FACT Center?

Well, one of our core (and my personal favorite) activities is developing fastening applications. We help our clients to bring fastener ideas from sketch to market. This includes solid modeling, proto types, testing, pilot production, engineering drawings, patent application help, and even domestic and overseas sourcing. One of our recent product development clients was featured

on HSN. It's a new kind of picture hanger, and it sold out before the segment ended. You can search the internet for "HSN Blink Hanger", visit www.blinkhanger. com, or go to www.youtube.com/watch?v=hgHLvTdeKpE to take a look at it.

I also want you to know about our amazing staff. We are a small outfit, but we have a wide range of skills and experience. I guess I am the chief cook and bottle washer here. Shaun Johnson is our CAD engineer and CNC programmer and machinist. He develops your CAD drawings, solves our computer problems and maintains our

website Michelle Fuson is our forward facing customer service person. She logs in the test specimens, makes sure our jobs are scheduled and on time and she writes our technical procedures, organizes and prints our training materials, as well as supporting our accounting function. Lois Vertullo is the Disabled Veteran Owner of Carver Engineering and Manufacturing. She runs accounting and HR, and makes sure the cook cooks and the bottles are washed. Our shop staff include Dylan Henke and Harrison Green who weld, set-up and run the CNC equipment, conduct fastener testing—they are young and strong, which comes in handy for structural bolt testing. We have several part-time welders and assembly workers who we call in as needed. I love our staff...we couldn't serve you well or even function without each and every one of them.

How can we find out more about the Carver FACT Center?

The best way is to visit us here at our facility in El Cajon, California. You can also register for the monthly FTI Webinars—the best fastener training value in the industry—or just give me a call! I'm always happy to help with any fastener technical question or just chat about the things going on in our fastener world.



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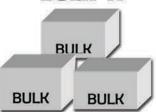
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ROBERT FOOTLIK WELCOME TO MT 442-542 DISTRIBUTION AND WAREHOUSING from page 172

Might you have discovered the OSHA question answer? Another hint perhaps? The specifics of what constitutes an aisle marking isn't in the OSHA regulations but it is in the underlying support information.

A note about study partners. For some of the students this is their first time away from home and home is 10,000 miles away. Language and cultural problems are the norm, not the exception. Having a readily available friend can really help in any new environment. Students are encouraged to work with someone from another country as an excellent way to assimilate faster. Given that the course is also available on the Internet a distance learning student (generally older and American) can provide insights and education while their on campus classmate can expedite dealing with the University.

Ten years later some of the study partners are still collaborating around the globe. In fact one former student comes to Chicago periodically to meet with her former partner and his family. She even babysat for their children in an emergency.

In a global economy having a trustworthy partner in a distant land greatly expedites communication and helps sidestep problems with local customs and government requirements. Everyone benefits from this collaboration. Week Three Storage Equipment

"This week's reading introduced typical methods and products for storing materials in a warehouse or distribution center. Pallets, pallet racks, shelving, cantilever racks and other static equipment are the elements of any layout, of most any size. How these storage mediums are applied and come together will be covered directly and indirectly all the way to the end of the course in some innovative ways."

"By next week you need to find 3 or 4 other students for a group project. I leave the who and when up to you, but the purpose is to identify a specific trade (carpenter, mason, locksmith, painter, etc.), form a named company and think of the tools and supplies required for your new occupation. Over the course of the next three weeks your team will also find a vehicle and the storage mediums required to successfully perform work in the real world."

"Perhaps a field trip to Lowe's or Home Depot will help visualize the materials that need to be transported and stored along with some idea of a suitable budget. To insure realism your presentation will not be to me, but to your classmates who will evaluate your efforts as "The Bank Loan Committee." If they like your efforts and grant your loan request you can all keep your "A." Rejection by the Loan Committee will require resubmission of the proposal."

"Those who are freely reading the text will find some guidance and thoughts in the first four chapters...if you care to look."

What's going on?

With students from many different countries and cultures identifying occupations that they have seen or participated in helps comprehension and provides diverse insights. Everyone knows what a painter does in their country but probably they have never thought about what it takes to support an occupation. This is also an exercise in collaboration, coordination, delegation and often frustration. Getting everyone on the same page and performing specific tasks is an art, not a science.

Try this yourself. You will find a wealth of planning tools on the websites of truck and trailer manufacturers. 3-D visualization guides will help you become conversant with AutoCAD and other layout tools. This exercise will also provide a new appreciation of how to evaluate a tradesperson that you might hire. Surprisingly the more organized the individual and their vehicle the lower their price and the better the job.

We are just about out of time for this session

Did you figure out the OSHA question? If so send me your answer at *robert@footlik.net* and we can discuss some of the ramifications, along with other things that will enhance your career path, knowledge base and enjoyment of life. Just as for the students my Internet office door is always open.

Typically the third week is when a student can elect to continue or drop out of a course. You too have this opportunity.

If you would like to continue through all 16 weeks please send an Email to Leo Coar who is the acting Department Chairman.

He can be reached at leojcoar@linkmagazine.com. "Dean Leo" is in charge of this course and all the education provided by Link Magazine! Please let him know that you read this article and want more.



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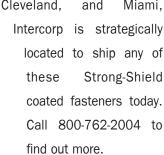
"These new coated fasteners will attach metal metal in roofing, siding, carports, patios, mezzanines. framing

more," said Law Winchester, National Sales Manager. "They have a four-layer protective barrier that prolongs the life of the fastener. It consists of a metallic zinc layer, a hex-chromium passivation layer, a functional nanocoating layer and a high-grade anti-corrosion chemical conversion film. With this kind of corrosion protection, distributors and construction professionals alike will benefit from this product offering."

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> Cleveland, and Miami, these



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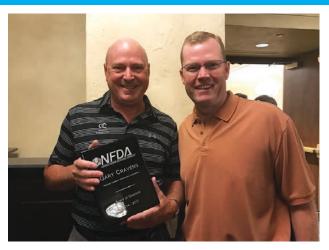
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NFDA KEVIN MILLER ELECTED NFDA PRESIDENT FOR 2017-2018 from page 204



GARY CRAVENS (LEFT) & CASEY MCILHON (RIGHT)

Tribute was paid during the NFDA annual meeting to retiring Board members Gary Cravens of Advance Components (Carrollton, Texas) and Casey McIlhon of Assembled Products (Des Moines, Illinois).

During the annual business meeting, Kevin Miller gave an update on the association's activities during the past year and plans for the coming year.

Fourteen New Members were introduced:

- ¤ Bodycote
- Buckeye Fasteners Company
- Carver Consulting
- ¤ Conexiom by ECMarket
- Eastern Industrial Supplies
- ¤ Hi-Performance Fastening Systems
- **¤** JSP Components USA
- Midwest Structural Products
- **¤** Motor City Fastener
- » National Industrial Fastener Mill & Supply Expo
- ¤ Qualtool
- ¤ R.L. English Co.
- ¤ TR Fastenings
- **¤** Wrought Washer

The annual business meeting also featured remarks from Ivan Lin of the Taiwan Fastener Trading Association.

Many thanks go to the annual meeting sponsors:

Banquet Reception Sponsors

- **¤** Assembled Products
- ¤ Beacon Fasteners & Components
- Sherex Fastening Solutions
- ¤ Taiwan Fastener Trading Association

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- ¤ R&D Fasteners
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Upcoming NFDA Events NFDA 50th Anniversary Celebration

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Guanacaste, Costa Rica

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June 5-6, 2018

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For more information about NFDA and its activities. visit www.nfda-fastener.org or contact Vickie Lester, vlester@nfda-fastener.org.

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		L-SERIES MALE THREAD #10 THROUGH 5/16. Available knobs only, assemblies and in kits. This style is useful in close quarter applications.
		TEE SERIES MALE THREAD #10 THROUGH 3/8. Available knobs only, assemblies and in kits. This style allows for a little extra torque.
		ROSETTE SERIES MALE THREAD 1/4 THROUGH 3/8. Available knobs only, assemblies and in kits. This style offers a more decorative look.
ES		KNURLED SERIES MALE THREAD M3 THROUGH M8. Available knobs only, assemblies and in kits.
RIC SERIES		KNURLED SERIES FEMALE THREAD WITH ALUMINUM INSERTS M3 THROUGH M8. Available assembled only and in kits.
METRIC		TEE SERIES MALE THREAD M5 THROUGH M10. Available knobs only, assemblies and in kits.
		ROSETTE SERIES MALE THREAD M6 THROUGH M10. Available knobs only, assemblies and in kits. MOTE: All knobs for male thumbscrews are cold formed onto standard socket head cap screws.
LASER	INFO GUIDE SEI STANDARD OR CUST Knobs are black acetal resin with whit	OM
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distributor**news**

DDI System, a leader in market-specific distribution ERP technology, announces the release of Inform Engage to help distributors connect with clients during every interaction.

Inform Engage focuses on three key connectivity tools within Inform ERP aligning distributors with their customers 24/7. Tapping into the power of CRM, mobility tools and eCommerce, DDI's Inform ERP delivers an elevated customer experience few software companies provide.

Jorge Salcedo of To Rise Supplies (New York) relies heavily on the CRM tools of Inform for their distribution business. Salcedo notes "Customer management is so well intertwined within the system. We know more about the customers than the customer knows about themselves. That component gave us the innovation we needed to have. In a moment, you can search a contact, know a few things about them, know what they have stopped buying from you, and translate your talent as a sales rep, directly into a finished order."

Designed to help distributors achieve operational excellence and growth, Inform delivers the most insightful analytics and progressive technology on the market today. DDI's Inform software combines everyday operational benefits in accounting, inventory, sales, purchasing and pricing with the latest sales driving tools such as cloud connectivity, mobile apps, CRM, real-time e-commerce and more.

Informs' enhanced feature set brings significant value to wholesale distributors, enabling them to outperform the competition with an end-to-end ERP solution focused on customer needs.

Inform Engage strives to serve the new breed of empowered consumers through customer connectivity and deep insight.

To learn more about Inform Engage and see Inform ERP in action, please visit: www. ddisystem.com/engage.

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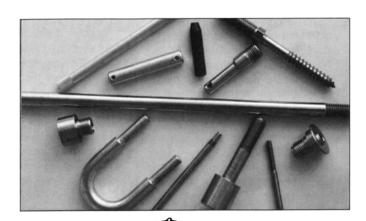
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MWFA MIXER-PURE SUMMER FUN by Nancy Rich



The Fastener Training Institute visited Elk Grove Village, IL the week of August 14th to conduct their weeklong Certified Fastener Specialist class. in town, the MWFA hosted a MWFA Mixer inviting the fastener industry as well as the CFS students. Time Sports, in Elk Grove, was a perfect venue with their outdoor patio. Over 80 fastener personnel visited the Mixer enjoying complimentary drinks, plentiful appetizers and a great August weather evening.

Companies Sponsoring The Event Included:

- BTM Manufacturing
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- Riverdale Plating & Heat Treating LLC
- XL Screw Corp.

Door Prizes Were Donated By:

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- Glen Brin/Innovative Components
- Central Wire
- **KDS** Imports
- Mack Brooks Exhibitions
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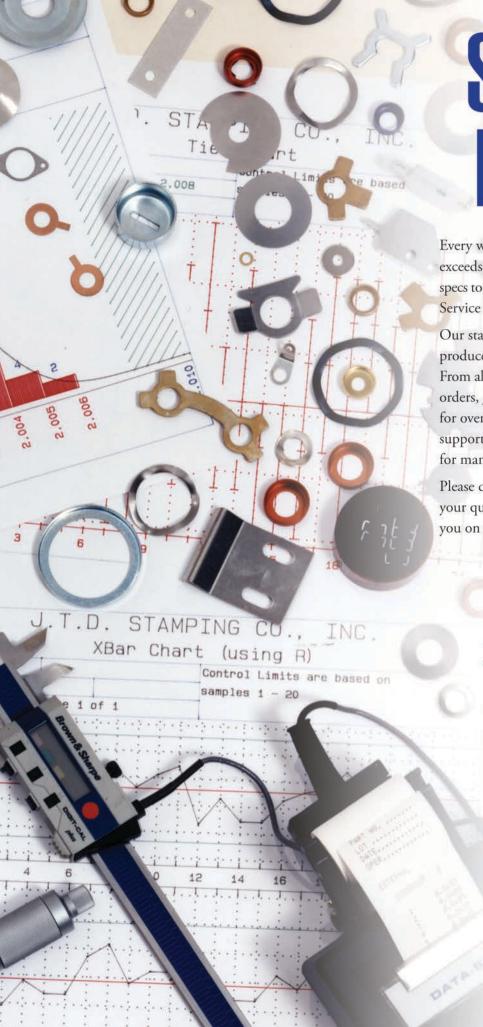
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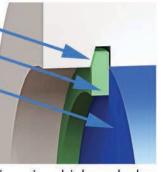
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