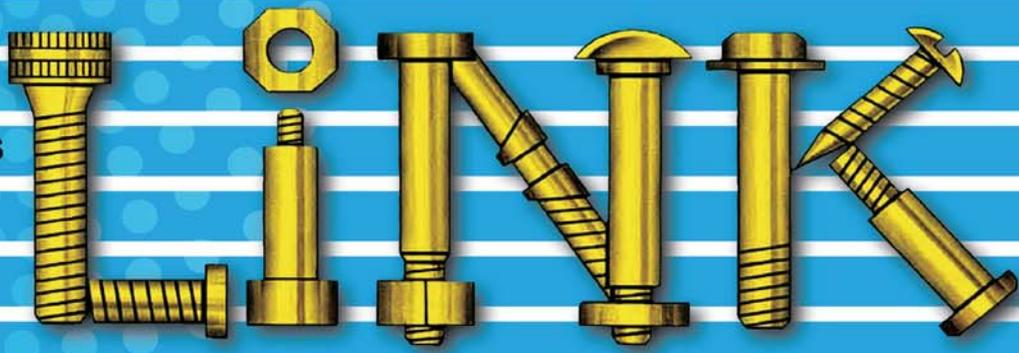


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DISTRIBUTOR'S LINK MAGAZINE IS A QUARTERLY PUBLICATION DEDICATED TO THE FASTENER INDUSTRY AND FASTENER DISTRIBUTORS.



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PUBLICATION LAYOUT AND DESIGN BY

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DISTRIBUTOR NEWS

Already being in compliance with the International Traffic in Arms Regulation (ITAR), **North East Fasteners Corporation (NEF)** has completed the registration process. The company has continued to comply with all applicable U.S. export control laws and regulations, specifically including but not limited to, International Traffic CFR120-130 and Arms Regulations and Export Administration Regulation.

NEF is now an approved supplier to General Dynamics. Some other approvals include; Lockheed Martin, Rockwell Collins, Honeywell, Bombardier, Canadair, Dehavilland, Learjet, Rafael Advanced Defense, Teledyne Controls, Patton Air, Shorts Brothers, Short and Harland.

NEF is AS9100 certified with a 100% standing for 6 years running. It is also an ISO 9001:2008 and QSLM Levels 2/3 certified supplier, serving the commercial, military, aerospace and automotive markets. NEF is currently producing a size range of -00- to number 10 diameter fasteners in all types and classes, as well as M1.2 to M4.5 (metric), up to 2 inches (50mm) long.

For more information contact North East Fasteners at Tel: 860-589-3242, Fax: 860-589-6969, Email: nef@nef1.com or online at www.nef1.com.

* * * * *

Elgin Fastener Group (EFG) announces the completed acquisition of Holbrook Manufacturing, Inc. of Wheeling, IL.

Founded in 2003, Holbrook is ISO 9001:2008 certified and occupies a state of the art facility with the latest single and multi-die cold headers along with automatic screw machines, and multiple secondary operations. These operations are complemented by a top of the line tool room with wire EDM capability.

"With the addition of Holbrook Manufacturing, we can now offer customers a myriad of proprietary products such as Torx®, TorxPlus®, Taptite®, ACR Phillips®, SEMS and a host of others," said Ron Auletta, President & CEO of Elgin Fastener Group.

For more information, contact Elgin Fastener Group LLC at Tel: 812-689-8990. Email: quotes@elginfasteners.com or online at www.elginfasteners.com. Find Elgin Fastener Group on Facebook and Twitter.

Advance Components is now a master-stocking distributor of Micro Plastics products. Micro Plastics, Inc. manufactures high quality plastic fasteners including washers, spacers, hole plugs, circuit board hardware, hose clamps and more.

Advance offers immediate same-day shipping, custom bagging, resourcing and cross-referencing part numbers, blanket orders and drop shipping for Micro Plastic parts and other quality products in stock.

With Micro Plastics reputation for quality manufacturing and Advance's commitment to stocking inventory and providing excellent customer service, this is a partnership destined for success.

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 by at Tel: 1-800-275-7772, by email to: sales@advancecomponents.com or visit the website at www.advancecomponents.com.

* * * * *

Good things are happening at **Mar-Bro Manufacturing**. We are now producing 3/4" diameter sockets. In addition, our newly streamlined manufacturing process is supporting faster delivery times. Many orders can now be processed within 3 to 5 weeks.

Finally, we invite you to explore our new and improved website. Visit www.mar-bro.com to review our product line, request a free quote or learn more about our company.

For more information contact Mar-Bro Manufacturing at 1020 South 54th Avenue, Phoenix, AZ. Tel: 602-278-8197, Fax: 602-269-1235, email to: sales@mar-bro.com or visit the website at www.mar-bro.com.





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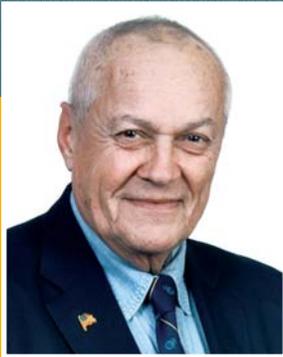
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Bengt Blendulf

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.

VARIABLES OF THE COMPLEX BOLTED/SCREWED JOINT

In the mid 19th century, when threaded fasteners gradually began to replace older means of assembly like hot riveting, nailing, crimping, etc, very limited knowledge existed about how to make a reliable bolted/screwed joint. The designer would typically size up a threaded fastener on the basis of an estimated external joint force (work load) divided by the smallest cross section of the fastener, which would be the root area of the thread. The quotient had to be equal to or less than the tensile strength of the bolt/screw divided by some assumed safety factors. This would, or could, work OK for the simple joints at that time, but as more complex designs of machinery and equipment developed, this approach became obsolete. Unfortunately, too many designers take this or similar "stone age" approaches even today. Bolted/screwed joints are often treated as after-thoughts like "let's just drill some holes and put things together with bolts and nuts".

We have today access to so much more detailed data about fasteners and design materials in general. Economy is also playing a much more important role since we strive to optimize our designs in terms of material- and labor costs. But, since we are also forced by competition to make things as cheap as possible, it could impact reliability due to a lesser degree of overdesign. I have in earlier Link articles discussed how we, in my opinion, spend too little time and effort in our educational system on fastening technology and bolted/screwed joint design. If we don't prepare our engineering students for the design challenges related to fasteners and assembly systems we are asking for more joint failures. The fastener suppliers, distributors and manufacturers are often (too often)

blamed for fastener failures even if the problem had nothing to do with fastener quality, but rather poor design and/or flawed assembly methods.

Variables

If we take a very close look at how many things that can influence the bolted/screwed joint we will be stunned. We can start by sorting the possible variables into 5 different groups. The initial work by the German Engineering Society (VDI) focused on the first 3 when developing their design guideline VDI 2230.

- [1] Fasteners
- [2] Joint materials and shapes
- [3] Assembly methods
- [4] Forces
- [5] Other influences

We can't just spend quality time on one or these five groups, they must all be considered as a design package. The German VDI 2230 guideline started off by focusing on the first 3 groups. So did other engineering groups, including Bulten in Sweden where I started my fastener career. Let's take a little closer look at these five groups to see where some of the most obvious variables are.

[1] Fasteners

For fasteners we have to consider the head types, mechanical properties, bearing areas, thread types (and manufacturing methods), utilization of capacity, clamping length, finish, prevailing torque elements ("locking") and friction coefficients. For high duty fastening we should preferably use vertically walled driving geometries like hexagonal, 12-point (double hex) and 6-lobe.



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LAS VEGAS FASTENER EXPO OFFERS BUYERS MORE VALUE AND OPPORTUNITY

Following a strong show in 2015, this year's 36th Annual National Industrial Fastener & Mill Supply Expo (NIFMSE), October 25-27, 2016 will have more industry support than we've ever had in past history", says NIFMSE Show Director, Susan Hurley". "Our attendees will see new suppliers both domestic and international, new products and solutions, and also have the opportunity to attend the comprehensive conference tracks offered during the expo to help grow and improve their business".

Held at the Sands Expo and Convention Center in Las Vegas, NIFMSE is outpacing its exhibit space sales and is projected to sell out of the 100,000 sq. ft. in the newly expanded exhibit hall. Returning brands include Brighton Best with 1,200 sq. ft, Lindstrom with 800 sq. ft., and Stelfast Inc. with 700 sq. ft. of space, each showcasing various products from your standard metric and inch nuts, bolts and screws to machinery and tools.

"In addition, we're very excited to welcome new companies to the show. Distributors will have a wider network of suppliers to choose from, such as bolts manufacturer GDPA Fasteners and Phoenix Specialty Manufacturing Co. who supplies specialty parts, as well as Wafios Machinery Corporation carrying the latest in machinery," continues Hurley.

Equally as important as finding new suppliers is attending the full day conference program offered on day one by the National Fastener Distributor Association (NFDA), Fastener Training Institute, Pacific-West Fastener Association, Manufacturers' Agents National Association (MANA), National Fastener Industry Suppliers Financial Manager Network, and Women in the Fastener Industry (WIFI).

To embrace the next generation, NIFMSE is also proud to announce its partnership with the Young Fastener Professionals (YFP), an organization that "hopes to create a platform for young professionals, and the businesses employing them to develop, educate and enhance a variety business initiatives through strategic analyses." NIFMSE encourages anyone starting out to attend and network with veterans of the industry. In addition, the

show will recognize and award a young professional, nominated by the industry, who has made a significant contribution to the betterment of the fastener industry.

"As the leading fastener show in North America, we are at the forefront of innovation, technology and solutions services in the industry. Backed by Emerald Expositions we plan to invest more marketing dollars to draw top suppliers and distributors from around the world," says Linh Vu, Marketing Director of International Sourcing and Manufacturing Groups, Emerald Expositions.

Trade Show Schedule

Tuesday, October 25

Conferences and Workshops, starting at 8:30am

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Thursday, October 27

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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 Lclaus@NNITraining.com. You can learn more about NNI at www.NNITraining.com.

UNDERSTANDING HYDROGEN EMBRITTLEMENT

Perhaps the two most feared words that a fastener distributor could ever expect to hear stated about their product are “Hydrogen Embrittlement”. This is partly because veterans of the industry have long heard the stories, many reaching urban legend status, of flying screw heads and catastrophes that take down businesses. Although there is likely some truth in these stories to justify some real concern, the other, and perhaps, greater part of the problem is that the industry is simply not enlightened with the newest information and knowledge. And like so many other things, when there is a vacuum of knowledge, fears emerge.

The intent of this article will be to take a look at the latest understanding of Hydrogen Embrittlement (HE) as it relates to fasteners and condense a considerable amount of information into a simple yet thorough exposition on the topic.

In this regard, the article will explore the fundamental understanding of what hydrogen embrittlement is and the conditions necessary for a failure to occur. With the fundamentals understood, this article will then explore several of the best practices to avoid or reduce hydrogen embrittlement risk.

Fundamentals: What Is Hydrogen Embrittlement?

In essence, hydrogen embrittlement is a loss of ductility in a metal fastener as the result of hydrogen dissolved in the metal acting in combination with critical levels of tensile stress and material susceptibility. Although this article is targeted towards steel fasteners, hydrogen embrittlement can be attributed to failures in other metals and products. In short, the fastener industry does not have

a monopoly on hydrogen embrittlement failures.

Hydrogen embrittlement failures can be broadly classified into two different types, attributable to their source of hydrogen exposure. This is an extremely important point to understand because the fastener supplier has a good deal of control over one of these but not the other. The first type, Internal Hydrogen Embrittlement (IHE), occurs when the hydrogen source originates in the processing steps of the fastener manufacture. Most commonly IHE is traced to process steps like electrocleaning and electroplating. The other type, Environmental Hydrogen Embrittlement (EHE), is the result of exposure to hydrogen from external sources while the part is under stress in field service. This is, perhaps most often, the result of hydrogen that evolves at the surface of a part undergoing corrosion and is subsequently absorbed back into the fastener.

Although it may be of little consolation to the end user that has experienced the hydrogen embrittlement failure, the determination whether the failure is the result of IHE or EHE is extremely important to the fastener supplier. EHE is the result of the environment the fastener is applied in and normally outside the control of the fastener supplier. IHE, however, presents a significantly different case, as the fabrication process for which the fastener supplier is responsible may have played a role. Prior to the fabrication process receiving all the blame, however, it is important to consider the design. More often than not, the design responsible entity bears part of the culpability for a failure since it is their design that contributed to the part being at high risk. In fact, some parts, such as very high strength 12.9 property class fasteners that are zinc electroplated likely could be considered “ticking time bombs.”



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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 FASTENER REUSE & TORQUE VALUES

“Can I reuse your fasteners in a critical application?” Believe it or not, a good friend actually called me and wanted to know where this was written so he could show his customer. I had to write a letter to his customer to explain the circumstances, but it gave me a great idea for this article.

There are times when customers ask questions that we have all known the answers to from years of training and experience. But when asked “where is it printed?” we are at a loss to find the exact quote or if any such quote exists. This article will answer several common questions.

A distributor should not have to answer specific technical questions because all fastening conditions and applications are unique. Misinterpretation of how the customer is going to use the fastener and under what conditions could lead to tremendous liability for both parties. Here are some of the more commonly asked questions:

Can A Fastener Be Reused In A Critical Application?

NO. No one can tell how much stress the fastener had endured while in use. The fastener could have been installed beyond its yield point or way below cyclic loading causing stress raisers. Fatigue micro-cracks are not visible. Fasteners are inexpensive when compared with the associated liability. Replace it.

Can Fasteners Be Reused Under Normal Conditions?

YES, but only ferrous (steel) fasteners that were used under controlled conditions. That is, they were properly installed and the service loads were not heavy or

excessive. Again, the operative word is ‘controlled’ conditions. If the conditions of use are not known, then do not take any chances: No.

Non-ferrous fasteners (stainless steel, nickel alloys, silicon bronze, titanium, etc.) will all work harden once placed under a tensile load. Here, one needs to apply discretion; if it is a small fastener, 5/16” or less, chances are it may be reused. But, once a fastener has work hardened, its mechanical properties become severely compromised.

Therefore: if any threaded fastener, ferrous or non-ferrous, has experienced any loading beyond its proof load or yield strength, that fastener should never be reused again in any application as it no longer safely represents its intended mechanical or physical properties.

Can Nuts Be Reused?

NO. This is a simple answer to a complex question. There is only one way a nut can be reused and it takes the combination of two events properly used to effect the results. So the simple answer is ‘No’ since we have no idea how the nut was previously installed and under what circumstances.

The basic explanation is that the variables of friction prohibit reuse. When the nut is tightened against the threads of the male fastener, the threads of the nut become compressed. The fastener is tightened in tension and, like the coils of a spring, the thread pitch will return to normal once the tension is released. The threads of the nut do not return to its normal pitch dimensions when unloaded. Unlike tensioning, when a material is compressed, it will remain slightly compressed, thereby changing the thread pitch of the nut.

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KEN FORGING

Forged Industrial Hardware

THE MAN BEHIND THE STORY: STRENGTH, INTEGRITY AND VISION

KEN FORGING - a family owned, hot-drop forging business located in Northeast Ohio. They are a proud domestic manufacturer of closed-die industrial hardware in carbon, alloy, stainless steels and custom forgings. Their passion is to provide distributors with the highest quality product line of 'Forged in the USA' industrial hardware, striving to exceed customer expectations.

The man behind the success of Ken Forging is its Owner and President and now occasional Engineer, Draftsman and Die Sinker, Richard A. Kovach. Rich started Ken Forging with two things - a die cutting machine and a vision. To understand Ken Forging's success, you need to understand the man behind that vision - a vision whose seed was planted long before the company was founded 46 years ago.

THE EARLY YEARS - It all began with a paper route when Rich was not even six years old. His older sister delivered papers to 25 families in their neighborhood and needed help. Sunday papers had to be assembled, which was a time-consuming task, so she enlisted the help of her little brother to split the work. Two years later, his sister gave up the paper route, but he wanted to keep it. Times were tough, and everything he earned

he wanted to share with his parents to help with the necessities. They agreed, as long as it didn't interfere with school. So he was up early each morning to deliver papers before school started. By the time he was 10, he started saving the money he earned for himself. Over the years, the paper route grew and, by the time he he was 16, he had 125 customers. Studies and sports required additional time, so he gave up his paper route, but not before he had enough money to buy a car. Rich says looking back, what that paper route taught him most was how to manage his money.

A SEED IS PLANTED - Rich always had a strong work ethic, working several jobs to save money. During his summers he worked local construction jobs, and on the railroads, and while in school he worked at the local gas station. One day, the owner of the local supermarket brought his Cadillac in for service. Rich recalls the man watching him work on his car, but before he left, he said something that lit a fire in Rich. The man said, "Rich, the only way to get anywhere is to own your own business." It was at that moment Rich knew what he wanted to do with his life. "I didn't know what or where, but that became my dream," he recalls.



Providing Excellence & Quality through Service & Passion

That dream became a reality when, after serving in the military and then working as an apprentice for five years at a forging company in Cleveland, Ohio, Rich struck out on his own to launch Ken Forging in 1970. But that was just the beginning.

A SLOW AND STEADY JOURNEY - Rich started his company in a 20-foot by 20-foot garage in Cleveland, Ohio in 1970. Back then, the company was known as Ken Tool & Die, and it consisted of just himself, the garage and a die cutting machine, which he used to make dies for other companies. It wasn't long before he outgrew the garage and moved into a larger 2,000-square-foot facility close by. Within two years, business had grown steadily enough that he was able to hire two part-time employees and he needed yet more room.

A TIME TO GROW - Rich knew he needed to make a bold move. Given his unexpected growth, he had to relocate somewhere where he could have the space to really expand and take his company in a new direction.

That opportunity came when Rich purchased 21 acres of land in a quiet wooded area in Jefferson, Ohio - just 50 miles northeast of Cleveland. The land was vacant aside from a pond - with its resident ducks, geese and wildlife. Rich saw it as the perfect location to build his new facility and reinvent the company. Now Rich finally had the space to really build the company and take it in a new direction.

It wasn't long before he saw his first opportunity. Instead of sinking dies for other companies to make eye bolts and rod ends, why not manufacture his own line of products? So quickly he changed the emphasis of his company to the forging of fasteners, and changed the company name to Ken Forging to reflect this new direction.

CONTINUED ON PAGE 18

THE MAN BEHIND THE STORY: STRENGTH, INTEGRITY AND VISION

It wasn't an easy transition. One of his long-time employees referred to it as a "venture, as well as an adventure." But he had a vision and a passion to do the work he loved, which helped him persevere. As the years went on more employees were added and more machines were purchased to meet the growing demand.

A VISIONARY - After fifteen years in the forging die manufacturing and forging commercial business, Rich began to think about how he would move his company into the next twenty or even thirty years. He then began exploring the possibility of expanding his capabilities in manufacturing.

Within close proximity of Ken Forging, a local wire company came up for sale. It was the opportunity that Rich was looking for. He decided it was a good outlet of manufacturing to get into as an investment. In 1997 he purchased Spring Team, which once had been the Schultz Mechanical Wire company.

Following on from the success of his initial foray into the acquisition game, Rich began an aggressive search to purchase additional companies to further expand Ken Forging and ensure future sales growth. In 2000, Rich came across Cleveland City Forge. They were buying forgings, machining and selling them on to distributors. Rich saw them as an opportunity for Ken Forging to produce the products and machine them as well. He contacted Park Ohio, indicating a serious interest in purchasing Cleveland City Forge, should Park Ohio be interested in selling. Rich's bid was warmly received and in 2001, Ken Forging became owner and manufacturer of Cleveland City Forge.



"A visionary with common sense and nerves of steel, Rich Kovach is forging a legacy and blazing his own path in history."

In 2004, pursuing the same strategy for growth and stability, the next addition to the Ken Forging Group was a well-established, over one hundred years old company, Edward W. Daniels - a big producer of similar products to Ken Forging's existing product line up. By purchasing them, Ken Forging increased its capacity of forgings and eliminated the competition. In seven years, Rich had successfully acquired three companies.

DETERMINATION LEADS TO SUCCESS - Today, Rich's singular vision has grown Ken Forging into the leading domestic manufacturer in the U.S. forging industry - employing more than 135 people. The facility, still in its Jefferson, Ohio location, has undergone a series of twenty additions to date, totaling over 320,000 square feet in size and is in a constant state of growth.



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“Working at Ken Forging is more than just a job, it’s being a part of something...belonging to a family. Rich provides the type of leadership that you need; confident, fair and always willing to be involved and offer guidance whenever needed.”



KEN FORGING
Forged Industrial Hardware

THE MAN BEHIND THE STORY: STRENGTH, INTEGRITY AND VISION

KEEPING IT IN THE FAMILY - Continuing on from his own success, Rich decided to bring his son Ken into the family business. At an early age Ken began helping out at the warehouse - sweeping the floors and keeping the areas clean and tidy - earning a little pocket money on the weekends and in the summer - in much the same way that Rich started out with his paper route.

It became clear to Ken, even back then, that his destiny was to be working alongside his father at Ken Forging. “Being the second generation, I knew early on that I would work with my Dad. He taught me the trade but I didn’t know the hard work and discipline required to become a Tool and Die Maker.” Ken’s duties in the early years ranged from custodial, machine operator, working in the forge, production, shipping and anything else that needed to be done. Rich was keen for him to learn every aspect of the business.

Ken’s valuable input was to become evident as the digital age approached. Technology was driving business to adapt to customers’ changing needs and requirements. One of Ken’s major roles was to lead Ken Forging into the era of technology. While still working, Ken studied CNC programming, CAD drawing and computers, “to become a better shopper!” Now computers have taken over nearly every aspect of the business - a legacy that Ken is proud of.

A COMPANY BUILT ON VALUES - A key to Ken Forging’s success has been the trust that Rich has built with his customers - a trust based on the company’s continued commitment to deliver superior service and quality - two things the family owned company is well known for.

“But it goes beyond the customers,” says Ken. “You can’t build a successful business without a strong team behind you, one that believes in the vision and shares equally the commitment to carry it out. Our employees are truly our greatest asset. We are problem solvers and consultants. We strive to make the customer’s job easy and pleasant - meeting their needs as if they were our own and building a mutual trust. We are true partners.”

A LEGACY IN THE MAKING - “I’m proud of my Dad for his entrepreneurial spirit, foresight, intuition, risk-taking in climates of business conservatism.” Ken offered. “He has given me a great gift of working with him in the business he began 46 years ago. My plan for the future is to work with the third generation of Ken Forging - *my children*. My dream is to be able to give my children the same gift my father lovingly gave to me.

CONTINUED ON PAGE 22



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THE MAN BEHIND THE STORY: STRENGTH, INTEGRITY AND VISION

PRODUCTION EFFICIENCY - From the beginning, Rich knew that he needed to be in control of his operations. He attributes success to keeping everything in-house - it's his biggest competitive advantage - enabling them to have product precisely when the customers need it.

Production at the facility is based around three key principles - Safety, Quality and Productivity. Every job, every day, every decision they make, is centered upon these three areas - safety being their utmost priority. The machine set-ups are thoroughly checked before each job begins. If there's a problem, the operation is shut down. The safety of any employee, on any job, anywhere in the plant will never be jeopardized.

There is an embedded culture where everyone strives to deliver the very best possible products. Employees are highly trained in spot-inspections making sure all specifications are adhered to. If the slightest irregularity appears, that job is stopped - it will resume only when an accurate product can be produced. Accuracy and efficiency go hand-in-hand. Absolutely everything that is produced is rated hourly. A minimum of 99% on-time delivery is expected and they are proud to say they meet that mark daily. However, unexpected issues arise and in these instances they wisely adopt the motto "rather be late and right, than on-time and wrong."

Ken Forging has one of the most extensive product lines of forged industrial hardware with an enormous amount of inventory - allowing them to provide their customers with same day or next day shipment on all stock items. Of course, no minimum order is required, allowing all customers, large or small, to receive the same superior service, quality and competitive pricing. Quick turnaround on specials and modified parts is a specialty - it's what their customers want so it's what everyone at Ken Forging commits to providing daily.

"Every employee understands and realizes their worth to the team...keeping us all working harder, pushing us to constantly improve and never settle."



CONTINUED ON PAGE 132



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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.

DODGING SPAM FILTERS: GIVING LEGITIMATE EMAILS THE BEST CHANCE TO GET THROUGH

While email spammers are about as popular as a carnival barker at a wedding, too many of us are being unfairly characterized as spammers, simply because our emails 'look like' spam.

"Internet Service Providers are waging an endless war against the spammers who invade our mailboxes," says Maciej Ossowski, director, enterprise sales, GetResponse (www.getresponse.com), an email marketing service provider. "This war has heavy casualties in the form of 'false positives' — legitimate commercial emails mistakenly routed by spam filters to bulk folders.

Unfortunately, there's no way to counter spam filters head-on. After all, spam filters are nothing more than robots. And they're blindly programmed to characterize one email as junk and another email as valuable, based on the opinions — right or wrong — of the people who programmed them.

Moreover, there are scores of spam filtering services across the globe — each with its own, often differing score card as to what constitutes spam. Your email might not get discarded if it displays a few characteristics of spam. But if your message sends off all sorts of warning bells, chances are its ending up in the digital graveyard.

If that's not frustrating enough, individual companies — including fastener distributors — also often put up a second line of defense against spam at their digital perimeters, throwing up their own set of digital roadblocks as to what email gets through, and what email gets sent to Never Neverland.

Indeed, the only way to ensure your email or marketing message stands the best chance of leap-frogging past the sometimes onerous judgments of spam filters is to learn the logic behind how spam filters work, and avoid these common pitfalls, according to Ossowski and other experts on email spam:

- **Avoid Trigger Words** While you may have perfectly legitimate reasons to use words like 'free,' 'buy,' and 'promo,' spam filters consider such words red flags. Other salesy type words to avoid include 'bonus,' 'purchase,' 'prize,' and similar hype verbiage.

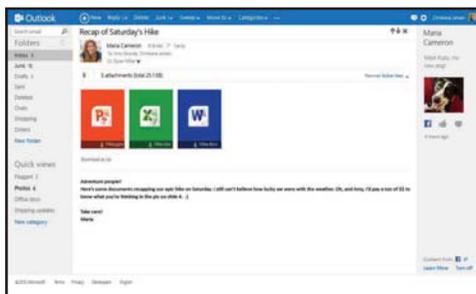
- **Avoid Unnatural Punctuation** It's tempting to break through all

the marketing noise in people's mailboxes by resorting to multiple exclamation points !!!!, ALL CAPS and similar punctuation tactics. But it will increase your overall Spam score, and increase your chances of ending up in the spam bin. Ditto for sending text in different colors.



ABOVE: TOO OFTEN, LEGITIMATE MARKETING AND OTHER EMAILS GET SNARED IN OVERLY AGGRESSIVE SPAM FILTERS.

BELOW: MANY PEOPLE ARE WARY OF EMAIL ATTACHMENTS FROM PEOPLE AND COMPANIES THEY DON'T KNOW.



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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-three 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 SECOND HALF OF 2015

In this issue, we will briefly review the fastener company acquisitions completed during the second half of the 2015 calendar year (see *Link Fall 2015 Issue - page 42 - for the acquisitions completed in the first half of 2015*).

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.

With forty-seven deals being consummated last year, fastener industry deal-making activity was the most feverish we have seen over the past eight years the time period Pinnacle has been assiduous in compiling this annual comprehensive deal list.

Year	Total Number of Deals Completed
2015	47
2014	41
2013	29
2012	35
2011	29
2010	30
2009	14
2008	24



On May 22, 2015, **Birmingham Fastener Inc.** purchased the Specialty Threaded Fasteners division of **Vulcan Steel Products Inc.** ("Vulcan Steel"). Located in Pelham, Alabama, Vulcan Steel's Specialty Threaded Fasteners division ("STF") manufactures anchor bolts, U-bolts, eye bolts, bent bolts and threaded studs for the North American construction and general industrial markets. Following the transaction closing, the STF production equipment and inventory were relocated to

Birmingham Fastener's main manufacturing plant in Birmingham, Alabama. A privately-owned company founded in 1980, Birmingham Fastener manufactures and distributes bolts and nuts for the steel construction, water works & utilities, oil & gas, heavy equipment and general industrial markets. Birmingham Fasteners is the largest manufacturer of T-head bolts and the largest distributor of A325 and A490 structural bolts in the United States. Following the sale of its STF division, Vulcan Steel will focus on the production of cold finished rod & bar and threaded rod for the oil & gas, construction, heavy equipment and general industrial markets.

Purchase price: not available



On June 23, 2015, **Pan American Screw LLC** ("PanAm Screw") purchased **Western Builders Supply Inc.** ("WB Supply"). Founded in 1945 and located in Billings, Montana, WB Supply is a distributor of specialty construction fasteners sold to lumberyards, hardware stores and farm / ranch supply stores across the North Central and Rocky Mountain states. The company's flagship line of star drive construction screws are marketed under the Big Timber® brand name. A family-owned business with approximately 30 employees, WB Supply will operate as a division of PanAm Screw and retain its own branding. PanAm Screw is a full-line distributor of specialty screws for construction, cabinetry, windows & doors, woodworking and sheet metal framing applications. The company was founded in 1957 and is headquartered in Conover, North Carolina. PanAm Screw products are marketed under three industry-leading brands: Deerwood Fasteners; Sure Drive USA; and Co-Op Screw. PanAm Screw is a business unit of The Marmon Group LLC, which is a portfolio company of Berkshire Hathaway Inc. (NYSE: BRK-A).

Purchase price: not available



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Robert Footlik

Robert B. Footlik is a licensed professional engineer. A graduate of Illinois Institute of Technology, he has worked extensively in the fields of material handling, plant layout, packaging and management systems. The firm of Footlik and Associates serves as staff warehousing and materials consultants to six trade associations. Footlik writes for 12 trade and professional journals. Footlik and Associates is located at 2521 Gross Point Road, Evanston, Illinois 60601; phone 847-328-5644.

OSHA IS STILL HERE

If you are old enough to have ridden in a convertible car without seat belts; can remember ash trays and cigarettes in restaurants and public place; have ridden a bicycle without pads and helmet; and watched the first man take his first step on the moon then you might remember the United States operating without the Occupational Safety and Health Act of 1970.

Starting with good intentions and an ever increasing budget this branch of the Federal Government has grown from less than 1,000 employees 40 years ago to over 2,300 inspectors and untold numbers of support people today. Along the way it has promulgated millions of pages of rules, requirements and documentation. Today there is literally no operation that is fully in compliance and things are only getting more complicated. And it's all there to "protect the health of the workers" without due regard to the economy or even the environment. Regardless of whether or not you agree OSHA is here to stay.

One interesting report that has been generated since at least 1975 is the "Top Ten Most Frequently Cited Violations." The 2015 preliminary list is essentially unchanged from the 1975 offering. The exact sections cited are different, but the broad categories are similar or identical. If one takes this as a report card of the agency their impact might be considered dubious, but their good

intentions are still in place.

Included For Fiscal Year 2015 Are...

- [1] Fall Protection (1926.501.) – 6,721 citations
- [2] Hazard Communication (1910.1200) – 5,192 citations
- [3] Scaffolding (1926.451) – 4,295 citations



- [4] Respiratory Protection (1910.134) – 3,305 citations
- [5] Lock out/tag out (1910.147) – 3,002 citations
- [6] Powered Industrial Trucks (1910.178) – 2,760 citations
- [7] Ladders (1926.1053) – 2,489 citations
- [8] Electrical Wiring Methods (1910.305) – 2,404 citations
- [9] Machine Guarding (1910.212) – 2,295 citations
- [10] Electrical General

Requirements (1910.303) – 1,973 citations

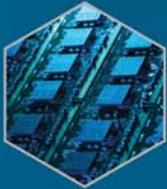
Anything that is in Section 1910 applies to general industry, including fastener distribution. Section 1926 covers construction sites, but also applies to distributors who deliver goods to any construction site. If your trucks, sales personnel or any employee goes to a construction site they too must operate under this Section of OSHA, and if you supply Material Safety Data Sheets (MSDS) for any products that you sell that's covered by "Hazard Communications." Given that there is roughly 1 Inspector for every 60,000 workers it is relatively unlikely that you will encounter an inspection...under normal conditions.



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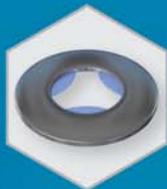
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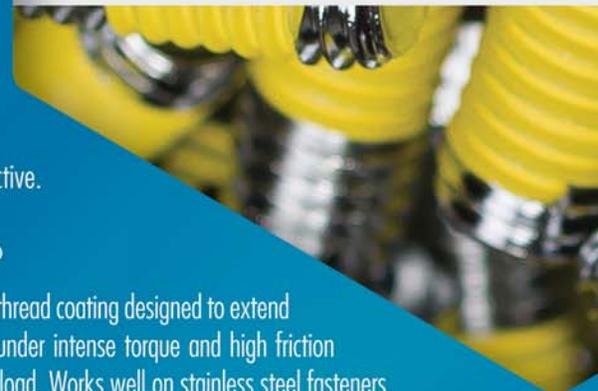


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Lorri Hunt

Lorri Hunt, a U.S. technical expert and co-convener for ISO 9001:2015. She is the co-author of the upcoming ISO 9001:2015 Handbook, *A Practical Guide to Implementation* published by Paton Profession. She is an Exemplar Global lead auditor, a frequent contributor to quality publications and journals, and a speaker all over the world. She is the president of Lorri Hunt and Associates Inc. and may be contacted at lorri.hunt@gmail.com.

THREE THINGS TO KNOW ABOUT THE ISO 9001:2015 REVISION

ISO 9001:2015 was published in September 2015. With the release of any standard, there is always speculation related to what is required or not required by a revision. Here are three things that users should know about the revision that will help them with the transition.

The Standard Is Less Prescriptive

ISO 9001 is no longer a standard that is used just by manufacturing organizations. This resulted in the need to adapt the standard to provide requirements that can be implemented by any type of organization. This was accomplished by reducing the prescriptive nature of some requirements and the integration of the term products and services, which replaces products. In other instances, the word product has been replaced by output, which could be a product, service, or process. This improves the understanding for these types of organizations.

When reviewing the revised requirements, some users might feel the need to make some change to the quality management system. However, the change to products and services should not require change for many users. For users in the service industry, this change along with revised language to clarify the requirement could result in the need to make some small modification to the quality management system.

Understand Documented Information and Auditability

In addition to the transition to products and services, the standard is less prescriptive in some of its requirements as risk-based thinking can be leveraged to determine when documented information

is needed. This change means that there are no specific requirements for documented procedures or a quality manual. In the 1994 version of the standard, there were seventeen requirements for documented procedures. This was reduced to six required documented procedures for the 2000 and 2008 versions of ISO 9001.

Now organizations will need to determine what documented information is needed beyond the minimal requirements included in ISO 9001:2015. Clause 4.4.2 (quality management system and its processes) include requirements that an organization determine what documented information it needs to demonstrate control of processes and provide objective evidence of conformance.

This change in requirement should not have that large of an influence on the level of documented information that an organization determines it needs, because organizations have typically required more documented information than the specific requirements that were included in ISO 9001.





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AEROSPACE DISTRIBUTORS HAVE UNIQUE NEEDS

Aerospace Needs Are Precise

Aerospace Distributors have all the same needs that commercial fastener distributors have, their needs are much more precise.

Commercial fastener distributors often need to maintain lot control and traceability; aerospace distributors always require lot control, traceability, detailed quality certification to multiple specifications and complete paperwork with every shipment. Always. No mistakes, no excuses, no second chances.



Sourcing

The whole process starts with sourcing the product. The vendor must be certified and must pass several critical tests in order to be considered. The barrier to entry is high so there are a limited number of major suppliers and the list doesn't change often. All suppliers in the chain are required to stay up to date with their certifications at all times.

FAA Definition Of A Standard Part

Here is a quick look at the minimum requirements that an aerospace distributor must face. It is the FAA definition of a simple standard part:

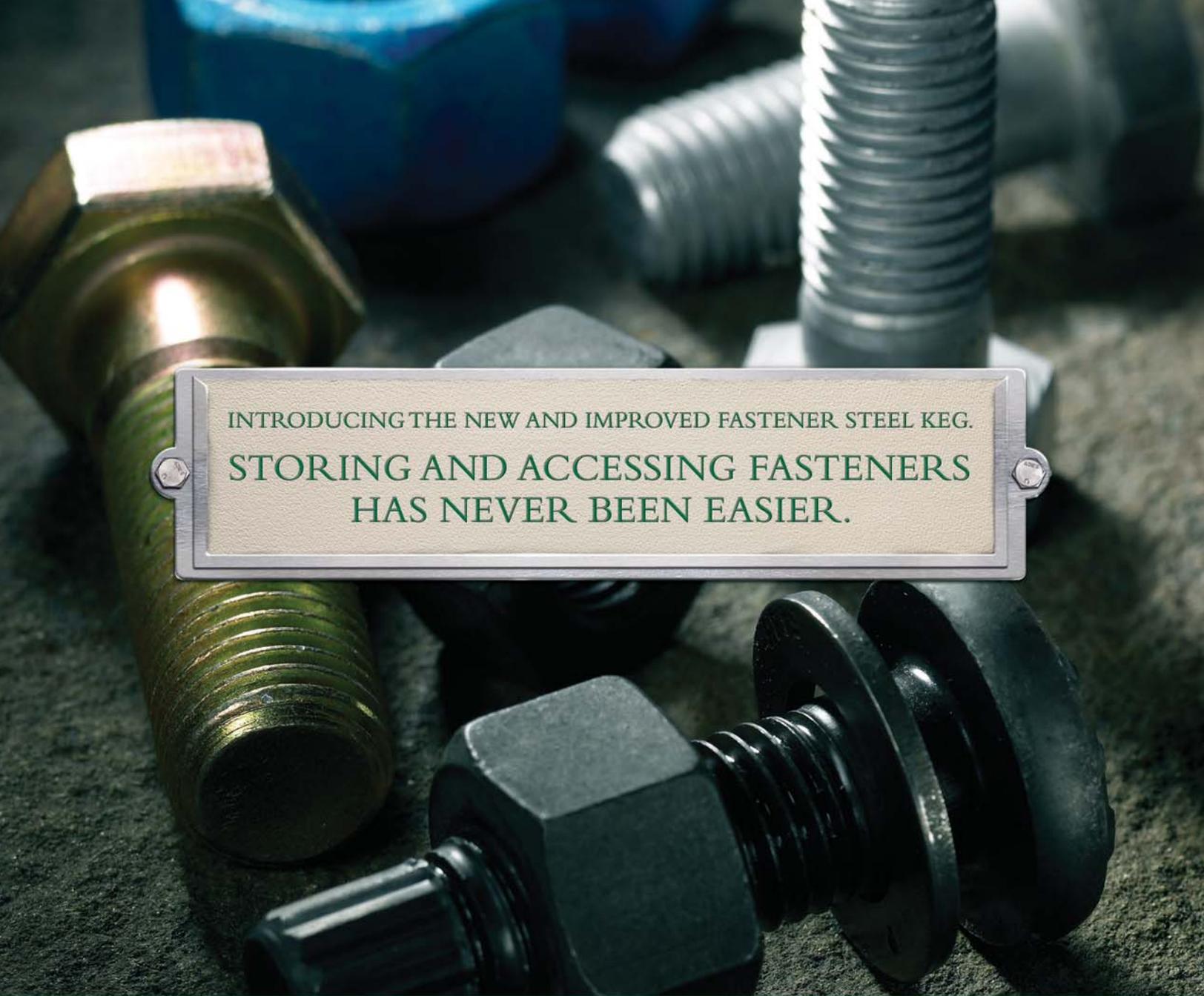
"A part manufactured in complete compliance with an established industry or U.S. Government specification which includes design, manufacturing, test and acceptance criteria, and uniform identification requirements; or for a type of part which the Administrator has found demonstrates conformity based solely on meeting performance criteria, is in complete compliance

with an established industry or U.S. Government specification which contains performance criteria, test and acceptance criteria, and uniform identification requirements. The specification must include all information necessary to produce and conform the part and be published so that any party may manufacture the part. Examples include, but are not limited to, National Aerospace Standard (NAS), Army and Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Sematec, Joint Electron Device Engineering Council, Joint Electron Tube Engineering Council, and American National Standards Institute (ANSI)."

Vendor & Product Certifications

That's just the beginning, vendor certifications include, but are not limited to, AS 9120, ISO 9001. Parts certifications include, but are not limited to, MS, NAS, AN. Actually, MS, NAS and AN are for the most part obsolete, even though they are still often ordered to with those part numbers. Aerospace fasteners are made to NASM standards which are published by the AIA (Aerospace Industries Association). Suppliers need to take care to use the correct specification and revision when providing and sourcing aerospace fasteners.

Individual parts may also require that they be certified to aerospace OEM part numbers such as Boeing or Airbus. Even though the fasteners may be identical to the NASM part numbers, they may require additional certifications for original mill test reports, plating certifications, etc."



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Marty Nolan

After a brief stint working an inside sales desk during college, Marty has been a Manufacturers Rep with R.L. English Co. for the past 30 years. He has been the North Coast Fastener Association (NCFA) president for the past three years and is currently the NCFA representative on the Fastener Industry Coalition (FIC) board. He hopes to one day see a Cleveland sports team win a championship...but is not holding his breathe! Contact Marty via email at m.nolan@prodigy.net or m.nolan@rlenglishco.com.

PRESERVING THE FASTENER HALL OF FAME WALKWAY

A few years ago I wrote a piece about the Fastener Hall of Fame. For a few years, they had not inducted anyone and I wrote a blog about that topic. In response to that post, I was notified that the Hall of Fame was alive and well and was also informed that there was a physical Fastener Hall of Fame walkway in Columbus, Ohio next to the Columbus Convention Center where the Fastener Show had been held for years. For the record, the Hall of Fame (HOF) has inducted new members in both 2014 and 2015. So being a student of the fastener industry, I decided to make a pilgrimage to the HOF and see what was there. In December 2015, I set aside

some time to track down the HOF walkway and document it with some photos.

While I was visiting the site a construction worker told me that they were doing a lot of work in that area and he was pretty sure they were going to be removing the Fastener Hall of Fame pavers as they expanded the Convention Center. I called the Columbus Convention Center and sure enough, they confirmed that the HOF walkway was going to be removed. I left them my name and asked that they call me to let me know when this would be happening. I never heard back so I made contact again in January, 2016 and I was told that the bricks had been removed and were sitting in a wooden box on a pallet.

The Fastener Hall of Fame had been removed and they had no idea what to do with the bricks. I told them that if they did not have anyone to claim them that I would welcome the opportunity to retrieve them. In mid-January, I was sent an email saying if I wanted to pick them up I could take possession of the bricks. With the help of a few industry friends, we did just that.



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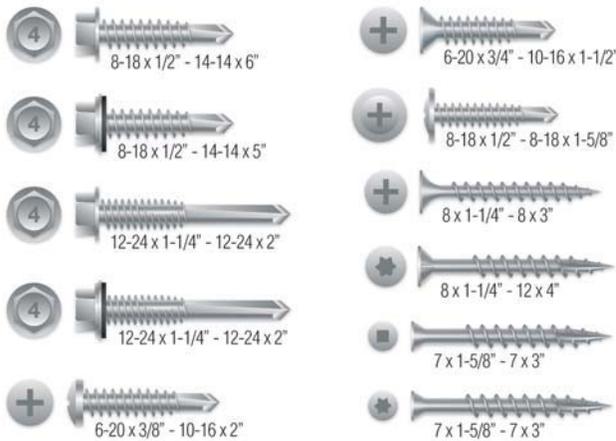


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INTRODUCING SALIM BRAHIMI, DIRECTOR OF ENGINEERING TECHNOLOGY

Salim Brahim is president of IBECA Technologies Corp. and also beginning January 1, 2016, he was appointed Director of Engineering Technology at the Industrial Fasteners Institute (IFI). He is a licensed member of the Quebec Order of Professional Engineers. He has accumulated over 26 years of experience that have made him into a complete fastener and bolting professional. He holds a master's of materials engineering and a graduate diploma in management from McGill University in Montreal, where he is completing a doctorate on the topic of fastener hydrogen embrittlement. Mr. Brahim also serves as chairman of ASTM Committee F16 on Fasteners, as head of the Canadian delegation to ISO Committee TC2 on Fasteners, and as vice chair of the Research Council on Structural Connections (RCSC).

Experience

Mr. Brahim began his career in 1989 with Ifastgroupe, an integrated fastener manufacturing group headquartered in Marieville, Quebec. He served as Process Engineer then Quality Manager at Galvano, a coatings division, where he gained in-depth expertise of fastener coating processes. In 1996 he moved to Infasco, the primary manufacturing division, where he served as Metallurgist. In 1999 he took a position in Troy, Michigan as Director of Applications Engineering and Quality at Kamax, a German based tier one manufacturer of critical fasteners, supplying the automotive and heavy truck industries in Europe and North America. In 2002, he founded IBECA Technologies, an engineering consulting business through which a growing number of clients are

well served by his expertise, experience and versatility. Mr. Brahim is recognized and highly respected throughout the fastener industry as a leading expert in fastener manufacturing, fastener metallurgy, application engineering, corrosion prevention, failure analysis, and hydrogen embrittlement. He is a lead instructor with the Fastener Training Institute.

Awards

2015 - IFI Soaring Eagle Technology Award: bestowed by the Industrial Fasteners Institute in recognition for "his past and on-going contribution to the fastener industry's body of knowledge in the areas of materials and finishes, and their impact on hydrogen induced failures in high strength fasteners."

2004 - Fred F. Weingruber Award: bestowed by ASTM Committee F16 in recognition for "his outstanding contributions to the development of fastener standards, especially in the field of hydrogen embrittlement."

Research

In 2006 Salim Brahim initiated and oversees collaborative academic research programs at McGill University on fastener related topics, notably: (i) high strength material susceptibility to hydrogen embrittlement, (ii) characterization of metallic coating materials. These programs are co-funded by the industrial partners including Industrial Fasteners Institute (IFI), the Canadian Fasteners Institute, (CFI), Boeing, Infasco, Pratt & Whitney, Heroux-Devtek and the Natural Sciences and Engineering Research Council of Canada (NSERC).

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Locknut Technology is a premier manufacturer of all-metal prevailing torque locknuts in the USA. Located near Chicago, IL, they are centrally located to serve industries all across the USA and Canada with over 50,000sq.ft. in warehouse and production capacity to produce over **one million locknuts daily**. You can be assured of timely delivery and outstanding value with Locknut Technology.

Demystifying locknuts and choosing the right locknut supplier requires some understanding of these unique products. Many a commodity buyer is unaware of the technical requirements of an "all-metal prevailing torque" locknut. At Locknut Technology, that is all we do and we fully understand these specifications. Typically, the cost of the fasteners in a finished assembly is only 0.1% of the cost of that assembly. If one of these fasteners was to fail while holding together a critical part, it could mean the loss of production time, personal injury or even the loss of life.

So, why would you trust some product from unknown sources, questionable quality or untraceable manufacturers due to a lack of proper head-marking? Here are the 10 Advantages of doing business with Locknut Technology:

Advantage #1: Technology Driven

"Made by Locknut Technology" stands for excellence. It is symbolic of our endeavor to achieve total quality and value in all we do. Locknut Technology was founded in 1995 by Roy Motz and has developed a substantial North American presence based on its reputation for high performance locknuts. Our world class locking equipment was developed for high speed operation and monitored for process control. Continuous improvement programs help identify areas for further process enhancements. Our market leadership brings added value to your operations, and assures cost effective solutions. Customers using our products enjoy the Locknut Technology Advantage® every day.

Advantage #2: Made In The USA

Locknut Technology has extensive experience manufacturing prevailing torque all-metal locknuts. Our locknuts are locked and processed in our production facility near Chicago, Illinois. We operate 5 days a week, 24 hours per day, to assure timely deliveries to our customers. This greatly simplifies just-in-time schedules. Variations in prevailing torque, plating requirements or emergency orders can be easily accommodated.

Advantage #3: High Quality Nut Blanks

Nut blanks are cold formed to our blueprint specifications on precision, high quality, oversized nut formers. Examine our nuts and you will immediately appreciate the fully formed corners, full diameter bearing surfaces and threads that are perpendicular within tight tolerances. Thread chamfers are also within tolerance. Compare these to some products with their "wobbly" threads, undersize bearing surfaces, oversized chamfers and you will agree that our quality is far superior. All the steel used in nut forming is new "virgin" melted steel. No recycled steel is ever used in our nuts, to assure the mechanical property requirements of our locknuts.

Advantage #4: Product Variety

Locknut Technology manufactures and stocks one of the widest varieties of all-metal locknuts found in North America. Over 100 million locknuts in various stages of completion are readily available. This means our customers can rely on us to ship what they want when they want it. Both inch and metric sizes are stocked in styles such as Automation Locknuts (A, B & C), Flange Locknuts (F & G), Nylon Insert Flange Locknuts, Centerlock (Two-Way) in both Finished Hex and Finished Jam styles, Collar Locknuts 3/8" thru 3", weld nuts, acorn nuts and our newest addition of FLEXTOP® locknuts. Also, we can tailor the prevailing torque to specific needs as required; a tremendous advantage in difficult assembly operations.

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Advantage

Choosing the right locknut supplier requires some understanding of these unique products, with their very specific technical requirements. At Locknut, 'all-metal prevailing locknuts' is all we do - so, why would you trust some product from an unknown source, questionable quality or untraceable manufacturer, due to a lack of proper head-marking? Here's why you can trust us...

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- 3 HIGH QUALITY BLANKS**
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WEBINAR CONTENT PROVIDERS AND SPONSORS NEEDED

We started our Fastener Product Training Webinar series in late 2014. These are now a monthly staple of our training programs. The reasons for our success is that these webinars are high content, low cost and convenient. Our typical webinar is live and interactive fastener product training consisting of 60 minutes of product training plus 30 minutes of Q & A. All you need is a high speed internet connection.

The Fastener Training Institute offers a platform for our recognized industry experts to share their knowledge and experience with the folks that do the work of servicing our business every day. Our industry is very broad and it is very hard for any one person or group to be experts in all products. This is where we need your help. We're soliciting the help and support of companies and industry specialists to help develop and produce webinar content. Many of these specialty products are not covered in depth by consensus standards. We're asking the manufacturers and master distributors of these fastener items to consider working with us.

Please contact Jo Morris at 303.257.4406 or by emailing JoM@FastenerTraining.com to discuss adding your specialty products to our webinar calendar.

Here's A List Of Webinar Programs Currently Being Developed By Our Trainers

- **Why Fasteners Fail**
- **Basics of Fastener Heat Treating**
- **Basics of Plating & Coating Fasteners**
- **PPAPs A General Overview**
- **How to Respond to Customer Quality Concerns**
- **Explanation of Testing Terminology**
- **Advice for the Fastener Specialist**

We will be adding an exciting new component to our webinar programs later this year. The Fastener Education Foundation, FEF, recently funded a grant to FTI to develop and deploy On-demand Fastener Product Training Webinars. This new option will make our webinars even more convenient. You will be able to simply log into our website, view the catalog of webinars, register and pay for your selection.

Another new option is a yearly webinar subscription program. This provides a discount and eliminates the monthly registration process. We also now offer discounts to companies who sponsor classes.

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We're very interested in suggestions and feedback about our fastener product training programs. Contact Beth VanZandt at FTI. She can be reached at 562.473.5373 or BethV@FastenerTraining.com

The objective of the Fastener Training Institute is to elevate the level of technical understanding and expertise of individuals in the fastener industry by providing a variety of training programs presented by recognized industry experts. FTI provides beginning and advanced training on fastener products, standards and specifications. 

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PEER REVIEW BEST PRACTICES

by Tim O'Keeffe

A Peer Review is a very valuable process to professionals and organizations alike. A peer review is a process in which fellow professionals provide feedback and constructive criticism to one another. Most often such feedback is significantly affected by the personal successes and failures of the peer. Thus for the peer participant, they gain the value of collective experience from an array of persons, each with their own perspective. Because the feedback originates from actual experience, the value received is different than specific academic training. Academic training is valuable as well, but often professors and consultants that deliver such training lack the real world experience that peers do.

In selecting peers, there are several qualifications one should assess before accepting as peers. Among such qualifications:

- **Perspective.** Does the peer have a position and orientation that can add value to the input that you will receive? In assessing perspective, one should be conscious of the homogenous trap—if all peers have the same perspective, you may lose the opportunity to “think outside the box”. An ideal peer group consists of persons with similarities, but also with sufficient differentiation that participants can gain new perspectives from the experience.

- **Commitment.** A successful peer group needs persons with commitment. The peers must commit to be present, not only from an attendance standpoint, but also a support standpoint. The peer must listen, participate, and offer advice to others.

- **Trust.** In most cases, peer groups involve the dissemination of confidential information. Peers must come to trust one another that such information remains within the group.

- **Vulnerability.** Peers must be prepared to make themselves vulnerable to one another. Vulnerability improves the delivery of information from one peer to another, and the quality of information received.

- **Conflict.** Peers must engage in conflict to stimulate one another to step outside their comfort zones. As Peter Lencioni, author of the book, *The Five Dysfunctions of a Team* notes, “the desire to preserve artificial harmony stifles the occurrence of productive ideological conflict”.

- **Disclosure.** Peers must have the ability to disclose information. Some organizations prevent such disclosure with employment agreements and such, so consider reviewing such agreements prior to accepting a peer.

Once the peer group is formed, there are some guidelines on how to format and organize reviews. First and foremost the mission of the peer group should be clarified and well defined. Peers should have defined responsibilities and expectations. There should be a regular reporting requirement so as to impose accountability and attention to results. Peers should be held accountable to complete such reporting, and if need be, terminated for failure to perform.

Peers will gain better perspective if they witness the operation, and so a periodic on-site review is recommended. The review should be formatted and structured, and with each review, there should be notes and a set of recommended action items to deliver to the peer. A best practice suggests that the peer report on progress against the action items in future meetings, so as to further stimulate follow through and accountability.

One danger to a peer group is irrelevance. If the peer group becomes overly social, or thin in the delivery of feedback, it loses value, and ultimately can lead to the demise of the group. Peers should periodically assess the value of membership, and if value is decreasing, changes should be made.

In summary, a peer group can be a valued partner to the professional executive. Executive life can be isolated, and peers provide support emotionally, intellectually, and creatively. Peer groups entail commitment and as with any organization, you get out of the organization what you contribute. 

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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".

COMPANIES MUST TREAD CAUTIOUSLY IN LIMITING EMPLOYEE SPEECH

Employers have always been uncomfortable with the idea of employees talking to each other about wages and job conditions. It seems like a ready made situation for sewing discomfort and unhappiness as people find out what their peers are making. Since starting wages may vary considerable from time to time based on market conditions and a company's state of need at the time they sought a particular worker, there is sure to be somebody who feels mistreated by their compensation plan. It can lead to dysfunction in the work force or, to avoid a drop in morale, a company might give in to the pressure to raise all wages in a group even if it is economically unwise.

The same can be said about discussion of working conditions and benefits by employees over the water cooler. In many instances in the past, therefore, companies discouraged or even prohibited workers from talking about such "private" things like compensation and benefit satisfaction. Whether that was right or wrong, there are some very strong legal reasons for management to shy away from making such statements. New interpretations and memos from the National Labor

Relations Board imply that such conversational bans can have a chilling effect on employee protected rights.

The legal provision that is being raised to limit employer restrictions on such discussions is Section 7 of the National Labor Relations Act. This provision protects any activity by an employee or group of employees by

which they seek to improve their pay and working conditions. While many people are under the mistaken assumption that the NLRA affects only union situations, this right is protected wherever workers may have occasion to speak to each other about such matters. With the National Labor Relations Board currently dominated by



President Obama's appointees who see things pretty much exclusively from the viewpoint of worker and union constituencies, the Board's general counsel in 2015 issued a memorandum giving examples of what is and is not acceptable language in employee handbooks and other management statements when employers try to limit employee speech relating to the workplace. The essence of this memorandum is that even the mere maintenance of a rule that has a "chilling" effect on employee Section 7 activity is unlawful.

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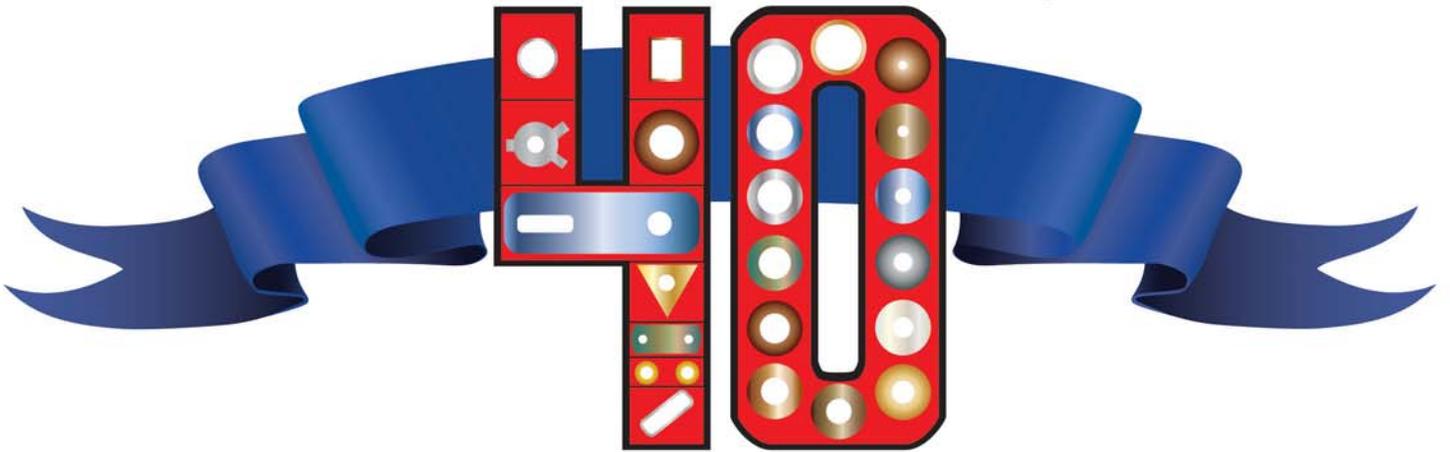
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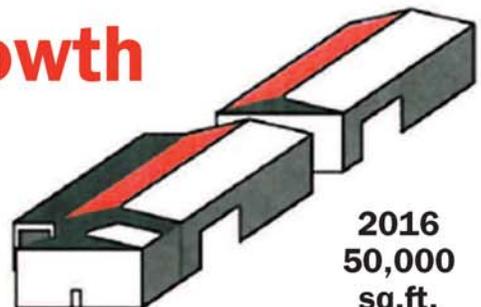
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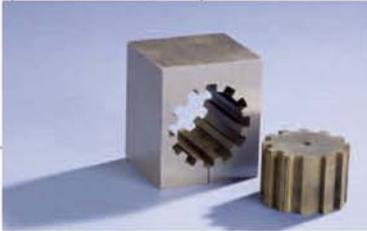


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GLOBALFASTENERNEWS.COM

by **JOHN WOLZ** EDITOR
 editor@globalfastenernews.com



END OF 2015 FIN SURVEY: MODERATE FASTENER SALES & PROFIT GAINS

Last year was neither the best or worst of times for U.S. fastener companies.

After four consecutive years of widespread sales and profit increases, the End of 2015 FIN Survey found revenue gains tightened last year.

Sales

Nearly 60% of survey respondents reported higher sales, with nearly 40% of those gains described as "moderate" in 2015. One out of four fastener companies reported similar revenue to the previous year, while 15% of fastener companies reported "moderate" sales declines in 2015.

Profit

About 58% of fastener manufacturers, importers, distributors and platers reported increased profit, with 37% claiming "moderate" bottom-line gains and 21% reporting a "strong" profit increase. Just over 21% said profits were unchanged from the year before, and 18% reported declining profit.

Costs

The End of 2015 FIN Survey found costs moderated, with 52% of participants reporting flat or declining costs, while an additional 43% claimed "moderate" cost increases.

Capital Expenditures

And 46% of fastener companies reported a "moderate" to "strong" increase in capital expenditures during 2015, while an additional 34% kept investment levels unchanged from the previous year. About 15% of respondents cut capital expenditures in 2015.

Company Performance

And for the third consecutive year, the FIN Company

Performance Index dipped in 2015, dropping to 6.8 from 6.9 the previous year.

Prices

About 39% of fastener businesses successfully raised prices in 2015, though the increases were more moderate than the previous year. Price increases ranged from 1% to 13%, with an average increase of 4.6%.

For 2016, prices are likely to stay unchanged or increase slightly. About 48% of FIN Survey respondents predict no price gains, while 41% foresee moderate increases and 9% expect moderate price decreases.

Operating Capacity

Fastener manufacturers reported operating at a range from 60% of capacity to 100% in 2015, with an average of 62% — down from 70.5% average capacity in 2014.

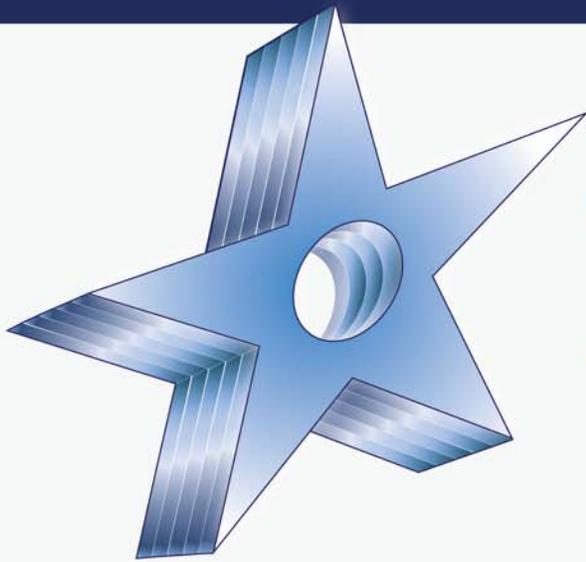
Workforce

The pace of job growth in the fastener industry slowed in 2015. About 51% of fastener companies expanded their workforce last year, down from 61% of fastener companies that added jobs in 2014. Just under 20% reported job growth under 5% in 2015, while 32% of companies reported workforce growth of 5% or greater.

About 38% of FIN Survey respondents kept their hiring levels unchanged in 2015.

Just under one in 10 survey participants (9%) cut jobs last year, up from the 6% of FIN Survey respondents who reported job cuts in 2014. Nearly eight in 10 fastener companies (78%) do not predict expanding their workforce in 2016, while 16% anticipate adding jobs.

Wage increases continued in 2015, with 68% of survey respondents reporting pay raises, down from the 83% who granted raises the previous year. The majority of wage gains (68%) were in the 1% to 4% range for 2015. About 64% of FIN Survey respondents predict pay hikes in 2016.



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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 received 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.

DO YOU HAVE A CONTINUATION PLAN IN PLACE FOR YOUR BUSINESS AND EMPLOYEES?

In January, Winter Storm Jonas dumped nearly 2 feet of snow on the east coast. Three weeks before that, the Mississippi was flooding the Midwest. Both events lead to huge business and economic losses. Spring is here and with Spring comes the beginning of tornado season. Statistically, this country experiences 1000 tornados per year. On average, there are 10 named storms in the Atlantic with over half of those becoming hurricanes. Mississippi has an average of 875,000 lightning strikes per year, or 18.4 per square mile, Louisiana has over 900,000 lightning strikes, an average 19.7 per square mile. And watch out Florida! Florida has 1.4 million lightning strikes per year. That is 24.7 lightning strikes per square mile. Combine that with an average of 35 earthquakes worldwide per week with the ever-present forest fires in the Northwest, anyone can come to the conclusion that we live in a shooting gallery!

The events can range from minimal impact events such as snow and ice, to severe impact events (wild fires and hurricanes). Depending on the scale of the event and a business's level of planning for disasters, the business will either move on or close forever. Natural disasters frequently result in property loss, termination of certain employees, injury to employees, loss of revenue or catastrophes up to and including loss of the business or lives as well. Every company can and should plan to continue in at least some capacity after a natural disaster.

Planning For The Worst

The absolute worst thing to do in preparation for a natural disaster is to do nothing at all. Waiting until it is broadcast on the radio or seeing a major storm system develop on the news is not the time to begin your preparation for a disaster. At that point, communications and electrical systems may already be failing area-wide. Critical supplies (oil, gasoline, diesel fuel) and emergency supplies such as AAA cell batteries, D cell batteries, battery power back-ups for computer and electronic

systems, generators and even flashlights, needed for business and human continuation may have already been sold out of stores by a panicked population. If you don't believe it, Google the terms: eggs bread milk toilet paper. Then click Images.

The best thing a business owner can do to continue business during and after a disaster is to begin preparation well in advance. Here are three basic planning activities to get business owners started:

[1] **Written Instruments and Communication**

Along with any disaster plan, written instruments are a necessity. Reducing a plan to writing is a sure sign that the plan is being developed in a manner which is achievable.

[2] Security Reasonable measures must be taken in order to, if not defend the store; provide footage for law enforcement to catch the individuals responsible for the crimes there committed.

[3] Finances Modern day financing relies heavily on electronic mediums such as credit card readers and telecommunications. Bottom line, if there is no power, there is no money. Your employees will also need financial assistance during this time period as well. Two weeks of pay can ensure that employees 1) can pay their bills and endure, and 2) come back as they will be obligated to work for the pay advance you provided them with.

Additionally a whole wealth of information is provided at ready.gov for individuals and businesses. Just remember that alongside the business, individuals must be taken care of as well.

Conclusion

Every business should have a disaster plan in place in order to survive a natural disaster ranging from the smallest to devastating. People face challenges and businesses do as well. It is important that a natural disaster does not become a personal or business bankruptcy, where a continuation would have been entirely possible and necessary for the surrounding community. 

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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.

SELECTING THE CORRECT BLIND RIVET

The following consideration should be given when selecting a blind rivet for your application.

[1] Tensile And Shear Values

The blind rivet must have the proper tensile and shear values to fasten the components of your blind rivet application. Whatever the required tensile and shear strengths needed to properly secure the riveted joints plus substantial safety factor, blind rivets wide range of tensile and shear values will satisfy the requirements. Break Mandrel blind rivets have a tensile range of 75 to 2100 pounds and a shear ranges of 50 to 1700 pounds for one blind rivet depending on size and alloy.

Therefore, step one is to establish the necessary or desired tensile and shear values for the blind rivet application.

Blind rivets are also produced with higher shear values above the Break Mandrel design and these blind rivets are called Structural blind rivets. Structural blind rivets have a shear value up to 2400 pounds.

Step No. 1 is establishing the correct tensile and shear values for your blind rivet application.

[2] Alloy

The next selection to be considered is the alloy of the blind rivet. Blind rivets are produced from the following alloys and alloy combinations.

RIVET BODY MATERIAL

Aluminum
Aluminum
Copper

MANDREL MATERIAL

Aluminum
Carbon Steel
Carbon Steel

RIVET BODY MATERIAL

Aluminum
Steel
Monel
Stainless Steel
Stainless Steel

MANDREL MATERIAL

Stainless Steel
Carbon Steel
Carbon Steel
Carbon Steel
Stainless Steel

What atmosphere will your blind rivet application be subjected to, is a factor that must be considered. If the outside is where your application will be subjected to, than the alloy of the blind rivet should be aluminum rivet body and aluminum mandrel or stainless steel rivet body and stainless steel mandrel.

Many times I have been asked, "can I use an aluminum rivet body with a steel mandrel or a stainless steel rivet body with a steel mandrel?" My answer is, that even if the blind rivet mandrel is plated, you should not use a steel mandrel in an outside atmosphere because when you break the mandrel setting the blind rivet, where the mandrel breaks the steel is now exposed to the atmosphere and will rust. This rust will appear at the flange side of the set blind rivet. Blind rivets with a steel mandrel should not be use in outside atmosphere.

If your blind rivet application is subjected to food, such as in slicing machines or on counters or food worktables, stainless steel rivet bodies and stainless steel blind rivet mandrels should be used in the blind rivet application. In this blind rivet application blind rivets with steel mandrels should not be used.

Blind rivet applications that are not exposed to the atmosphere or food, anyone of the blind rivets alloys shown in the above chart can be used.



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EuroLink is very proud to announce that we have also become the very first distributor worldwide, to add a full-line of DIN 961 Fine-Thread, Full-Thread A2 stainless steel hex head cap screws. We are now stocking diameters M8-1.0, M10-1.25, M12-1.5, and M16-1.5 in lengths ranging from 16mm up to 100mm all in A2 stainless steel. Finally these screws no longer have to be manufactured per order. So not only do you, our customer, no longer have to wait on the manufactured

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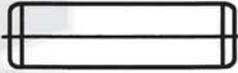
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ASME B18.8.4M	ISO 8752
MS171431-171790	NAS561

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MS16555	M21143/1
MS16556	M21143/2
MS9105	

GROOVED PINS



MS35671	MS35672
MS35674	MS35675
MS35677	MS35678
MS51605	MS51606

COTTER PINS



ASME B18.8.1	MS9245
MS24665	

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(AZLH) is proud to announce they have teamed up with Beron Associates to represent their line in the states of Delaware, Maryland, New Jersey, Metropolitan New York and Eastern Pennsylvania.

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For more information contact Beron Associates by email at mberonfastnrep@aol.com or dcberon@aol.com.

AZ Lifting Hardware is a wholesale distributor of globally produced industrial lifting hardware such as turnbuckles, eye bolts, shackles, hooks and related wire and chain hardware and a manufacturer of Special length eye bolts through 1 1/2" (36mm) diameter, rod ends and custom bent products. They have served the fastener, rigging and industrial distribution markets since 2006.

To request a products catalog or more information contact AZ Lifting Hardware at Tel: 1-888-936-1466 or Fax: 623-936-8909 or online at www.azliftinghardware.com.

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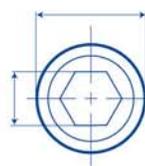
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YFP SEEKS MENTORS & MENTEES TO ATTRACT & RETAIN MILLENIALS IN THE FASTENER INDUSTRY

Seeking Mentors and Mentees!



We are taking AIM on the future of the fastener industry through our new mentoring program, called AIM: Advancing Individuals through Mentoring.

Right now we are looking for three young professionals who can be paired with three mentors for our pilot program. If you are interested please visit our website at www.youngfastenerprofessionals.com for more information.

This joint NFDA/YFP mentorship program will serve the needs of young fastener professionals by pairing them with willing mentors focused on advancing the mentee's personal career goals. Mentors and mentees will be matched based on professional skills that the mentee wants to acquire and that the mentor has to offer. The goal of this program is to provide support and educational opportunities to young professionals while developing a more diverse leadership pool for the fastener industry.

Attracting & Retaining Millenials In The Fastener Industry - A Case Study by YFP

Young Fastener Professionals developed a survey that was made available during Q1 and Q2 during FY15

for individuals employed in the fastener industry to voluntarily submit responses. The survey entitled, "How to Attract & Retain Millennials in the Fastener Industry" aims to provide first-hand, direct feedback on what we (as fastener professionals) are looking for in terms of job satisfaction to expectantly increase retention. In this 30-45 minute presentation we will present a case analysis based on the survey findings including, but not limited to the following topics:

- **Important Job Attributes when Considering a New Job**
- **The Importance of Promoting from Within**
- **Areas of Improvement for Fastener Companies**
- **Generating New Ideas**
- **Recognition**
- **Onboarding Procedures/Processes**

The case analysis was prepared by a number of Young Fastener Professional members who conducted independent research to substantiate the survey's findings. Their supplementary discoveries add informative content from scholarly sources to further provide direction on attracting and retaining personnel.

The next event will be held on May 5, 2016 at the Midwest Fastener Association, Rockford, IL

If you are interested in having Young Fastener Professional present this at your association's Spring meetings, please get in touch with Ryan Kertis at rkertis@stelfast.com. 



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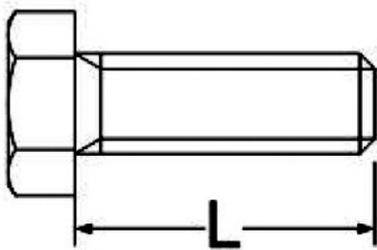
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MEASURING FASTENER LENGTHS

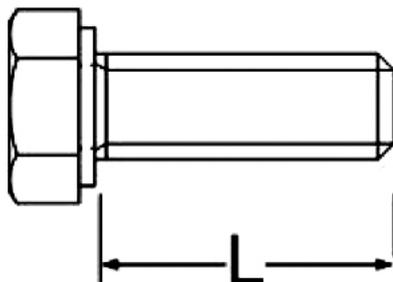
Question: How Do I Measure Fastener Lengths?

Answer: That really depends on the fastener. A good rule of thumb is that if you have a flat under head bearing surface, then length is measured from under the head to the end of the thread. If you don't have a flat bearing surface under the head, then length is measured from the top of the head to the end of the thread.

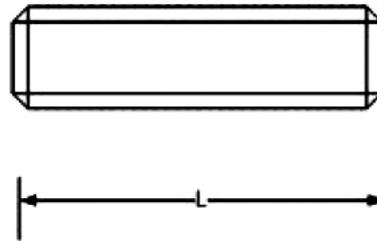
ASME B18.2.1 for square and hex bolts states; The bolt or screw length shall be the distance measured parallel to the axis of product from the bearing surface of the head to the extreme end of the bolt or screw, including point if the product is pointed.



On a washer faced hex bolt, bolt length does not include the thickness of the washer face.

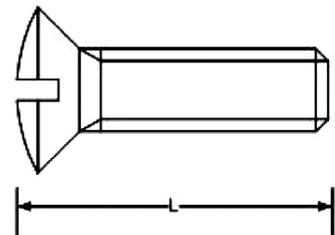
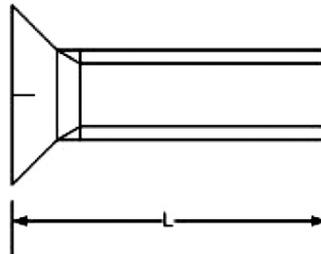


Stud length is defined as the distance measured parallel to the axis from the first thread to the last thread.



ASME B18.6.4 for flat and oval countersunk head screws states; The nominal length of screw L shall be measured parallel to the axis of the screw from the extreme point to the theoretical intersection of the top surface of the head with the head diameter for screws having countersunk type heads.

In the case of the oval or round head screw, the dome part of the head is included in the overall length of the fastener L_o .



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MORE THAN 200 FASTENER PROFESSIONALS PARTICIPATED IN THE 2016 JOINT CONFERENCE

The 2016 Pac-West/NFDA Joint Conference was a great opportunity to expand professional relationships and widen business insights, while having fun in a great location. More than 200 people from across North America met in sunny San Diego, March 1-4, at the Loews Coronado Bay Resort.

Value-Added Selling

Tom Reilly, who literally wrote the book, Value-Added Selling, presented two great sessions at this conference. The first presentation, geared specifically to corporate managers and business owners, showed why value-added selling is a viable go-to market strategy and how to communicate this message effectively to customers. In addition, Reilly showed three ways to change those customer conversations and guide them down a path of value, not price. The focus for this presentation was how to avoid price resistance and communicate value effectively.

Crush Price Objections

In Tom Reilly's second conference presentation, he provided a tactical approach to handling price resistance. He showed how to persist when buyers resist and demonstrated six proven methods for framing powerful responses to those price objections so you can hold the line on pricing.

Attracting and Retaining Millennial Employees in the Fastener Industry

Melissa Patel (Field) and Bryan Wheeler (Star Stainless Screw) presented data from the comprehensive survey conducted by the Young Fastener Professionals

association in 2015. They were joined by NFDA president Casey McIlhon (Assembled Products) for an overview of the new mentor program launched by NFDA and YFP: Advancing Individuals through Mentoring (AIM).

Ignite!

Over lunch, conference attendees enjoyed six short presentations by fellow members.

- Phil Johnson (CMG), Kelly Cole (Hayes Bolt & Supply), and Andy Cohn (Duncan Bolt) shared information about the Fastener Education Foundation

- Rosa Hearn (Brighton-Best International) talked about her favorite things to do in Mexico City, for those who plan to attend Fastener Fair Mexico this year.

- Bill Derry (Field) had a great

presentation on technology for evaluating bolted joints

- Casey McIlhon (Assembled Products) gave the top ten reasons to attend the NFDA 2016 Annual Meeting in Louisville, Kentucky.

- Russ Doran (Wurth Timberline) reprised his infamous talk about marketing opportunities for a highly commoditized industry.



ABOVE: ED MCILHON HONORS BOB PORTEOUS AND BARRY PORTEOUS AS NFDA LIFETIME MEMBERS

BELOW: CASEY MCILHON, NFDA PRESIDENT; TOM REILLY, GUEST SPEAKER; KEVIN CHAVIS, PAC-WEST PRESIDENT



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DISTRIBUTOR NEWS

Offshore Milling Services, Inc. (OMS) has continuously improved and upgraded a custom piece of quoting software to give customers the most competitive pricing.

Custom quoting software has been developed that precisely calculates all the fixed and variable costs of importing products. It distributes the costs appropriately across any number of items. It doesn't matter if there is only one item in the quote or 50 items. The software will make all the appropriate adjustments. This software is a much more sophisticated approach than using a spreadsheet method. All the variables are included and distributed. This allows them to completely offer the lowest pricing with confidence. This will help you to win orders.

OMS specializes in the importing of specialty parts, made to print. Serving the fastener distributor market, they offer a unique service that takes the risks out of importing for the small to medium sized distributor.

They have nurtured a supply base of very qualified vendors that support the customers with competitive pricing and quality product. There is needed experience and understanding of international business to successfully acquire specialty parts made to a print. There are many differences in factories and their abilities to manufacture, as well as, deliver on time. It takes time and effort to understand the intricacies of the manufacturing landscape. OMS takes the risk out of that process for the distributor, guaranteeing the product will meet the print specifications. Steps are taken to make sure the product will meet the print. This has value to many distributors who do not specialize in international business and the pitfalls that lie there. Letting OMS handle the process allows the distributor to focus properly on the end-customer and on more sales.

In recent months, OMS has expanded into miniature parts that are made by precision machining. These qualified suppliers have top quality and competitive pricing. With almost 25 years experience, they are ready to source your difficult items and help you to win new orders.

For more information contact Offshore Milling Services by Tel: 503-244-1516, Fax: 503-452-9855, email to: info@offshoremilling.com or visit the website at www.offshoremilling.com.

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Andrew A. Gonzalez, Esq. is an experienced attorney with over twenty five years in practice. He focuses his attention on business and intellectual property matters. He provides sophisticated services to commercial clients who need to effectively compete in a business environment and personal counseling to individual clients who require the services of a seasoned and caring attorney. For more information, please visit www.golawny.com.

AN INTRODUCTION TO TRADEMARKS FOR SMALL AND MEDIUM-SIZED BUSINESSES

How A “Star” Was Born

Good naming and good marketing weren't invented yesterday. Consider the story of John K. Hogg of Frederick, Maryland, a manufacturer of soap. Mr. Hogg had a concept for a special soap, so he applied for a trademark. **STAR SOAP** he called it, and a star symbol was to be “printed, stamped or impressed upon the outside of each piece of soap,” as he wrote in his application. Yes, Mr. Hogg had real naming and marketing skills:

- A simple, one-syllable name
- A highly meaning word to convey both his aspirations and the quality of his product
- A physical symbol built right into the name

And the rest of the story? Mr. Hogg was the recipient of Trademark #9. That's right, the ninth trademark ever issued by the government of the United States. The date of his registration was October 25, 1870. **COLT** (first registered in 1889); **QUAKER** (first registered in 1895); **PEPSI-COLA** (first registered in 1896; **MERCEDES** (first registered in 1900).

What Is A Trademark?

A trademark is defined by the United States Patent and Trademark Office as any word, slogan, shape, color, scent, taste or any combination of these thereof



used in commerce to identify and distinguish the goods of one manufacturer or seller from those of another and to indicate the source of the goods. A trademark is a mark that is applied to product. For example, if you sell footwear, then the mark you apply to the shoe (e.g. **NIKE**) is a trademark.

A service mark is used in the delivery of services. If your bank is offering a checking account service called **SMART CHECKING**, this mark would be termed a service mark rather than a trademark, because it is used in the delivery of services rather than being applied to a physical product.

What Are Trademarks For?

Consumers who are satisfied are likely to buy or use the product or service again in the future. For this, they need to be able to distinguish easily between identical or similar products.



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PARTNERING WITH LOCAL SCHOOLS & TRANSITION STUDENTS

Innovative Components, which is one of the world's largest manufacturers of plastic knobs, handles, and quick-release hardware, has recently partnered with Township High School District 211 (local high schools in their area) and more specifically with their transition students.

The president of Innovative Components, Michael O'Connor states, "We are excited to work with D211 and help give their transition students opportunities in all areas of our business and provide meaningful, resume building and real work experience, which students can build on into their future."

D211 offers students with special needs the ability to enhance their acquisition of necessary work skills through a variety of work experiences at school or in the community. These skills aid in transitioning students to the post-secondary world after high school where they can become contributing members in the community within which they live.

District 211 Transition Services Coordinator, Patrick Abraham states, "In working to provide extraordinary vocational opportunities for our students with special needs,



we are thankful for our recent partnership with Innovative Components. This collaboration is our first on-site work experience we have in our community within the manufacturing industry where our students are gaining work skills in both the assembly of parts as well as with administrative tasks".

Innovative Components currently has 4 students working from 9:00am-11:45am each day in the offices and production/warehouse area. Each day brings new tasks and projects that the students get to work on. Both Innovative and D211 are excited and looking forward to the future ahead. 

BUSINESS FOCUS ARTICLE

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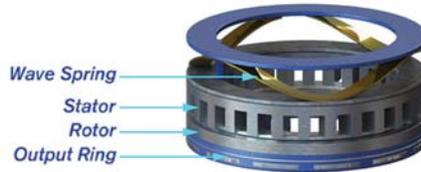
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ULTRASONIC MOTOR UTILIZING A WAVE SPRING by Vincent Rodgers

Ultrasonic motors are small motors, some measured in millimeters, which are being used in a variety of applications. A common usage for these kinds of motors is the auto focus feature on a camera lens. However other usages are seen in the automotive industry such as headrests or side mirrors, surgical equipment and robots. What made ultrasonic motors so ground breaking in the 1970's and early 1980's was the ability to create a motor that is extremely small, compact and virtually silent, with out sacrificing torque.

This ultrasonic motor is used in a camera lens for autofocusing. It consists of a stator, a rotating rotor and an output ring. A stator is a stationary part of a motor or turbine. The rotor is a non-stationary part of the motor, fitting inside or against the stator. A single turn closed wave spring is utilized to maintain the necessary pressure against the stator, holding the rotor in place since there are no screws or bolts in ultrasonic motors. The wave spring is a better



choice in this application over coil or washer type springs. The wave spring is light weight, compact and can still manage the low to medium loads required of it while keeping its spring.

The stator of an ultrasonic motor is piezoelectric, meaning it has ceramic elements which when energized by AC voltage creates vibrations at the ultrasonic level. The vibrations of the stator and the pressure of the wave spring against the stator create friction which rotates the rotor that turns the output ring. The output ring is the transmission of the ultrasonic motor. It receives the "input" of the motor which then focuses the lens of the camera. The great advantage to using ultrasonic motors is that they are almost silent when in motion. This is excellent for cameras zooming in and out when taking video. Furthermore, the ultrasonic motor is extremely responsive for quick zooms or because of the high torque of the motor; it can slowly move the lens keeping it in place.

TECHNICAL ARTICLE

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Photos Courtesy of Greg Christensen Photography

more photos on page 86



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Beacon Fasteners Item Builder

Item # X

2-32 X 1/4 SLOTTED PAN TYPE B SHEET METAL SCREW

Item Family: Sems - Machine Screw

TYPE: [Dropdown]

DIAMETER: [Dropdown]

THREAD: [Dropdown]

LENGTH: 1/4

HEAD STYLE: Pan

DRIVE STYLE: [Dropdown]

SCREW MATERIAL: [Dropdown]

FINISH: [Dropdown]

Reset Search

Item	Description	TYPE	DIAMETER	THREAD	LENGTH	HEAD STYLE	DRIVE STY...	SCREW MA...	FINISH
0204PPIZ	2-56 X 1/4 PHILLIPS PAN HEAD MA...	Internal Too...	#2	56	1/4	Pan	Phillips	Steel	Zinc Clear R...
0204PPSZ	2-56 X 1/4 PHILLIPS PAN HEAD MA...	Split Lock ...	#2	56	1/4	Pan	Phillips	Steel	Zinc Clear R...
0404PPEZ	4-40 X 1/4 PHILLIPS PAN HEAD MA...	External To...	#4	40	1/4	Pan	Phillips	Steel	Zinc Clear R...
0404PPIZ	4-40 X 1/4 PHILLIPS PAN HEAD MA...	Internal Too...	#4	40	1/4	Pan	Phillips	Steel	Zinc Clear R...
0404PPSQZ	4-40 X 1/4 PHILLIPS PAN HEAD MA...	Square Coni...	#4	40			Phillips	Steel	Zinc Clear R...
0404PPSZ	4-40 X 1/4 PHILLIPS PAN HEAD MA...	Split Lock...	#4	40			Phillips	Steel	Zinc Clear R...
0404SPEZ	4-40 X 1/4 SLOTTED PAN HEAD MA...	External To...	#4	40			Slotted	Steel	Zinc Clear R...
0404SPIZ	4-40 X 1/4 SLOTTED PAN HEAD MA...	Internal Too...	#4	40			Slotted	Steel	Zinc Clear R...
0404ZPEZ	4-40 X 1/4 6 LOBE (T10) PAN HEAD...	External To...	#4	40	1/4	Pan	6-Lobe	Steel	Zinc Clear R...
0604PPEZ	6-32 X 1/4 PHILLIPS PAN HEAD MA...	External To...	#6	32	1/4	Pan	Phillips	Steel	Zinc Clear R...
0604PPIZ	6-32 X 1/4 PHILLIPS PAN HEAD MA...	Internal Too...	#6	32	1/4	Pan	Phillips	Steel	Zinc Clear R...
0604PPSQZ	6-32 X 1/4 PHILLIPS PAN HEAD MA...	Square Coni...	#6	32	1/4	Pan	Phillips	Steel	Zinc Clear R...
0604PPSQ	6-32 X 1/4 PHILLIPS PAN HEAD MA...	Split Lock ...	#6	32	1/4	Pan	Phillips	Steel	Zinc Clear R...
0604SPEZ	6-32 X 1/4 SLOTTED PAN HEAD MA...	External To...	#6	32	1/4	Pan	Slotted	Steel	Zinc Clear R...

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NCFA GETTING THINGS ROLLING IN 2016

by Larry Kelly, NCFA President

I would first like to thank the NCFA for allowing me the opportunity to serve as President and be part of an Association helping our members stay in touch with events taking place within the fastener industry. I am truly looking forward to this new role and will do my best to follow in the footsteps of some of the great leaders in the fastener business.

The NCFA was proud to be part of two great events already this year. The first event took place in January with Dunham Products opening their doors to over 80 of our members. They conducted tours throughout the evening showcasing their manufacturing facility as well as providing a catered dinner. I would like to thank everyone at Dunham Products for a truly enjoyable experience for all of our member companies who attended.

In February, the NCFA hosted a dinner meeting double header with the Young Fastener Professionals sharing the results of their 2015 study topic, "How to Attract and Retain Millennials in the Fastener Industry." This was the first time these results were being shared with individuals in the fastener community. The second half of the meeting featured Elmore Smith AKA "Elmore the Rejecter" sharing his basketball career history growing up as well as his restaurant business. Elmore was very engaging and entertaining and had the 40 plus members who attended laughing along with many of the stories from his past. A special thanks to all the NCFA members who were there as well as the Young Fastener Professional who presented the

survey results making this a very informative and entertaining event.

One of the highlights for the NCFA every year is the Distributor Social which is set to take place again in May 12th. Plans are underway for the much anticipated and talked about event and we all looking forward to another fantastic turnout from our members.



Upcoming Events

There are still plenty of events scheduled for 2016 so be sure to mark your calendar.

May 12, 2016

DISTRIBUTOR SOCIAL

May 23 - 27, 2016

FTI - Fastener Training Week
CLEVELAND

August 18, 2016

NCFA/MWFA Night at the
Ballpark - Indians vs White Sox

September 8, 2016

Screw Open Golf Outing

September 22, 2016

MWFA Oktoberfest

November 7 - 11, 2016

FTI - Fastener Training Week
CLEVELAND

December 8, 2016

Holiday Bash/Elections

As always, we appreciate the continued support of our members and we hope to see many of you at our upcoming events throughout the year.

For more information regarding the NCFA or our upcoming events, please visit our website www.ncfaonline.com/EVENTS, or send us an email to lgraham@ncfaonline.com. 



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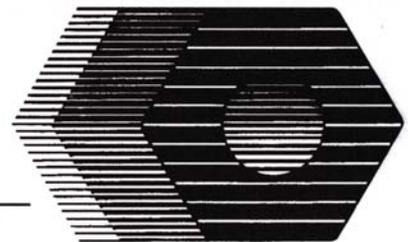
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- Centerlock Nuts
- Nylon Insert Lock Nuts
- Thin Nylon Insert Lock Nuts
- K-Loc
- Wing Nuts (Forged)
- Acorn Nuts
- 2H Nuts
- Machine Nuts

- Finished Nuts
- Gr. 8 Nuts
- Tee Nuts
- Galvanized Nuts
- DIN 934-Finished Nuts
- DIN 985-Nylon Stop Nuts
- DIN 980-Prevailing Torque
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Now AFI is an industry leading supplier of aircraft nut plates, locknuts, threaded inserts, and related high performance hardware.

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Over the years the company has truly earned their reputation as, "The leading source for locknuts and threaded inserts". Their team is focused on providing customers timely quote response, unmatched product expertise and the Industry's deepest/broadest inventory of locknuts and threaded inserts.

Long Standing Relationships

AFI has long standing relationships with the Industry's premier manufacturers, and they work hard to exceed the expectations of their thousands of customers located throughout the world.

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you are looking for MS/NAS/AN locknuts and inserts, they are a go to choice. Give them a call or send them an email and within minutes they can help you with your high performance fastener needs. All of their orders ship out the same day the order was placed.



NELSON VALDERRAMA, VICE-PRESIDENT, AIRCRAFT FASTENERS INTERNATIONAL (LEFT) AND DENNIS COWHEY, PRESIDENT, COMPUTER INSIGHTS INC. (RIGHT).

Technology Is Part Of Their Secret

Very early on, AFI decided that in order to track all the details involved in handling aircraft nut plates, locknuts, threaded inserts, and related high performance hardware, they had better have some form of automation. They installed a system that tracked

all of the transaction details and it has helped them earn their reputation for accuracy and excellent service.

The Business Edge™

In 2010, AFI decided that it was time to update their system, which was over 25 years old. They carefully examined all their options. They needed an ERP system with CRM capabilities, but in addition, they needed a fully integrated system that included:

- Lot Control and Traceability
- Certificate Capture
- Certificate Management
- Integrated Quality Management

DISTRIBUTOR NEWS

The DPA Buying Group a member-driven marketing & networking organization, is pleased to welcome eleven new distributor members to its industrial products division: Birck's Industrial Supply (Richmond, IN); Construction Products (Sioux Falls, SD); Etterman Enterprises (Willmar, MN); Hanover Tool, Inc. (Ashland, VA); Hatch Building Supply, Inc. (Madison, WI); M & S Distributors, Inc. (Atlanta, GA); Olson Trading Post, Inc. (Glenville, MN); Patlin, Inc. (East Dundee, IL); Professional Tool Sales, Inc. (Burnsville, MN); S & S Fastener Company, Inc. (Cincinnati, OH); Safe-Fast, Inc. (Eau Claire, WI and 2 additional locations).

DPA also recently added four new preferred suppliers: Disston Company (Chicopee, MA); FSP USA (Concord, NC); L.B. White (Onalaska, WI); Rolair Compressors (Hutisford, WI).

The DPA Buying Group is a North American buying and networking organization comprised of more than 600 distributors and 180 preferred suppliers in the Industrial, Janitorial, Safety, Packaging and Restoration product industries.

For more information about The DPA Buying Group, contact them Toll-free at 1-800-652-7826, or visit them online at www.DPABuyingGroup.com.

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Carl Potter CSP, CMC

Through his efforts as a keynote speaker, consultant, and author, Carl Potter has helped many workers go home every day without injury. He is the author and facilitator of the hazard recognition and control workshop, delivered to thousands of people in hundreds of workplaces in the United States and Canada. He has authored eight books. Information on his work and presentations can be found at www.carlpotter.com and more information about the company he leads is at www.safetyinstitute.com.

THE VALUE OF SAFETY

Have you ever thought about the value of safety? Value can be thought of in terms of money, standards, and morals. Safety values can encompass all of these. Effective safety leaders find ways to balance value regarding people (employees and the public), profits (production and loss control), compliance (rules and regulations) and data (numbers and statistics). However, because safety values can be viewed from different perspectives, there is potential for leaders to be or be perceived as hypocritical.

Overcoming The Potential For Hypocrisy

What is a hypocrite? According to Webster: a person who acts in contradiction to his or her stated beliefs or feelings is a hypocrite. It's not hard to watch the nightly news, read a newspaper, scan social media, or simply view those around you and come to the conclusion that you may be surrounded by hypocrites. However, let's not be too quick to judge. We may only see part of the picture or have only some of the facts. One thing of which I'm certain, no one wants to be judged as hypocritical...especially when it comes to safety.

Here's how it plays out. Sometimes workers say they are expected to get a job done quickly and have to cut a corner on safety to get the job done within the allotted time and budget. Certainly, a number of problems exist with this type of rationale. First, when questioned, workers will often say they are afraid of being disciplined or fired for not getting the job done within the stated objectives – even if it's unsafe. A few further questions such as “when is the last time someone was fired in your company for stopping a job that was unsafe” or “have you been disciplined for following the safety

rules in the past” usually do a lot to squash the erratic thoughts about time and money being more important than a true safety concern that puts people's limbs and lives in danger. Second, they are being hypocritical when they say they value their personal safety. Their actions aren't lining up with their stated values.

On the flip side, if you are the person in charge of a job – lead person, foreman, supervisor, for example – you must guard yourself against hypocritical actions. Lead by example. If someone on your job comes to you with a safety concern, take time to listen. Hopefully you will have taken time to do a pre-job briefing to demonstrate that safety is a critical part of the job. This is a great time to demonstrate the value of safety – before the job begins. It's the time to listen and guide. Take time to address job-related safety concerns immediately. Certainly, people are human and some humans can come up with things that are not relevant to the job and cast them as “safety issues.” You'll have to learn to properly deal with those one-offs and focus on the real safety issues.

Living Out Your Value Of Safety

It's true - no matter what level of the organization you work, people are watching you to see if you do what you say should be done. No one likes to think of themselves as a hypocrite. If you are going to be around people, you may not be able to stop people from thinking you are a hypocrite – remember, they may only have some of the facts or part of picture. You are in charge of living your life, and your life should line up with what you say you value. You're not alone! Let's do what we can to live out our safety values to create workplaces where it's difficult to get hurt. 

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DISTRIBUTOR NEWS

EFC International, headquartered in St. Louis, MO, is pleased to announce the acquisition of Texas-based fastener distributor, Technology Components Southwest (TCS). EFC is one of the leading engineered fastener distributors in the U.S. The acquisition, along with other future targeted acquisitions, is part of EFC's plan for regional/global expansion, market diversification, and enhanced product/service offerings.

Technology Components Southwest, LLC was formed in 2004 after acquiring the sales and distribution rights for Rivetnut Products in the Southwest region of the US and Mexico border, including maquiladoras. Since then, TCS has added numerous strategic product lines that are some of the most recognized and respected worldwide manufacturers. TCS Partners, Jimmy Brown and Tom Buddenbohn, stated that "EFC's global footprint, differentiated value proposition, strong brand recognition and unique business strategy creates an exciting opportunity for our employees, customers, suppliers and business partners. We are proud to become part of such a world-class and successful organization."

EFC has locations in St. Louis, Chicago, Atlanta, Detroit, Guelph (Ontario), Querétaro (Mexico), and Shanghai (China). Matt Dudenhoeffer, CEO/President of EFC, notes that "TCS' location and presence in the Southwest expands our coverage in that region thereby enhancing our ability to service customers with local engineering support and inventory. The newly combined entity will benefit from numerous synergies that will accelerate growth as well as strengthen the value we bring to both customers and suppliers throughout North America and globally."

EFC International, established in 1983, is a market leader providing engineered fasteners and specialty components to the automotive, industrial and distribution marketplaces. Global coverage, technical product expertise, cost reductions achieved through VA/VE, supplier consolidation, customized inventory programs and exceptional customer service are cornerstones of EFC's service offerings.

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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MANUFACTURERS MAKE AUTOMATED 3D PART INSPECTION A COMPETITIVE ADVANTAGE

Rapid three dimensional first part inspection is reducing scrap, increasing quality, cycle time, and improving overall equipment efficiency up to 20%.

Whether manufacturers pursue lean production, Six Sigma, or their own quality assurance program, measuring is at the heart of quality and foundational in Six Sigma's goal to Define Measure Analyze Improve and Control (DMAIC) production processes. Yet excess waste remains when the measurement is completed by slow human subjective means such as traditional hand gauges and optical comparators, which can lead to a myriad of errors in production processes.

With manual methods, first part inspection can take up to 45 minutes, incoming inspection audits can take hours, the Production Part Approval Process (PPAP) can take days, and accuracy can be less than desired.

"Even if micrometers and calipers are calibrated properly, measurement will vary from person to person depending on how they are held, squeezed, and interpreted," says Rocky Pinheiro, PhD, Vice President of Quality, North American Operations at Acument Global Technologies, a manufacturer of value-added screws, bolts, nuts and cold formed components for the automotive, industrial, aerospace, and defense markets.

Inspection equipment that provides a two dimensional (2D) or cross sectional view of parts can also be insufficient for today's demanding quality control

requirements. "Parts do not exist in a 2D, but a 3D world," says Pinheiro. "Every part manufactured must properly mate and function with other components in three dimensions."

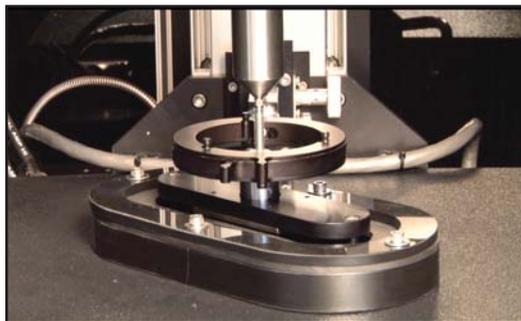
For these reasons, proactive manufacturers are turning to precise, objective, 3D inline inspection that can measure and record dozens of part features in a fraction of

the time it would take to do manual inspection. This is enabling manufacturers to turn automated 3D part inspection into a competitive advantage that is capable of significantly increasing quality and cycle time, reducing scrap, and improving overall equipment efficiency up to 20%.



ABOVE: GENERAL INSPECTION'S LASERLAB - SETTING THE STANDARD FOR 3D PART INSPECTION

BELOW: CENTERING DEVICE ON LASERLAB WITH PART



Automated 3D Part Measurement

"With LaserLab we are completing up to twenty measurements per part in three dimensions within 30 seconds for first part, hourly, and final inspection," says Pinheiro. "It gives us feedback on 90% of the elements we want to measure. From length, diameter, radius, and head height to corners, shoulders, and other dimensions

it is very accurate."

LaserLab, a 3-dimensional laser gauging system that can measure over twenty critical part features within 20 seconds down to 2 microns in diameter, is offered in laboratory and shop floor versions by General Inspection (www.generalinspection.com), a developer of high-speed measuring and fastener inspection sorting systems.

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BRIGHTON-BEST INTERNATIONAL

BBI EMPLOYEE RECEIVES PATRIOT AWARD FROM THE SECRETARY OF DEFENSE

Brighton-Best is proud to announce The Secretary of Defense has awarded Lisa Cole from Brighton Best International Cleveland the Patriot Award for the contribution to the National Security and Protecting Liberty and Freedom by supporting Employee Participation in America's National Guard and Reserves Force given by ESGR. Brighton Best International is dedicated to hiring veterans and we wish to thank you for your continued service and our freedom.



Brighton-Best has recently been approved by the Miami Dade County for its "ULTRAWEDGE" wedge anchor. The NOA # is: 14-0902.09. The Preferred U.S. Anchor UltraWedge is approved to comply with the Florida building Code, including High Velocity Hurricane Zone. Corrosion testing per ASTM G 85 Annex 5 and TAS114 Appendix E on report # ESP020309P and per Report # ESP019482P, is also included in this approval.

Preferred
U.S. ANCHOR

BBI is pleased to announce expansion of the Sayreville, NJ warehouse. The expanded facility is approx. 200,000 sq ft and houses over 35 million pounds of inventory. Located adjacent to New York City, the Sayreville NJ branch is ideally situated to service the Boston, New York, Philadelphia, Baltimore, Washington metroplex.



Carrying a full range of construction and industrial fasteners, threaded rod, anchors, B7 studs and all varieties of nuts and washers, we are ready to service our distributor base and expand their market opportunity. Since we service a large coastal area special attention has been given to the inventory in stainless and Hot Dip Galvanized product for all corrosive environment applications.

Orders placed by 3:30 PM will be shipped same day and pick up hours will be from 7:30 am until 7:00 PM.

BBI - LA has announced the promotion of Jessie Portillo to the position of Branch Manager for the Los Angeles & San Francisco locations. Ms. Portillo has a proven track record in sales & management and is ready to serve our customers in her new position. 



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NFDA PARTNERS WITH YFP AND LAUNCHES MENTOR PROGRAM by Vickie Lester

National Fastener Distributors Association Launches Mentor Program With Young Fastener Professionals Association

The National Fastener Distributors Association (NFDA) is partnering with the Young Fastener Professionals Association (YFP) to provide a mentor program.

The NFDA/YFP mentorship program will serve the needs of young fastener professionals by pairing them with willing mentors focused on advancing the mentee's personal career goals. Mentors and mentees will be matched based on professional skills that the mentee wants to acquire and that the mentor has to offer.

The goals of the mentor program are:

- To provide support and education opportunities to young fastener professionals
- To provide young fastener professionals with a mentor and volunteer experiences to enhance their career development and expand their professional networks
- To encourage more young fastener professionals to assume leadership roles in the fastener industry
- To expose mentors and their organizations to new ideas
- To develop a more diverse leadership pool for the fastener industry

New Membership Benefits

Late in 2015 NFDA launched a new benefit program that has proven to be very appreciated by members. Now every Friday NFDA members can download that week's

issue of The Kiplinger Letter. This publication consistently provides accurate forecasts of industries, businesses, companies and technologies poised for rapid growth and profit – before share prices begin to take off. And that's your key to profiting along with them.

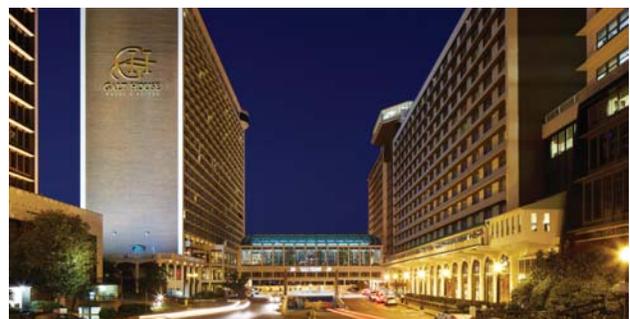
NFDA is now part of the Microsoft Community Connection, which will provide members with monthly tech tips, webinars and more. Members who participate in the webinars will be in a raffle to receive free Microsoft software.

Save The Date

The NFDA 2016 Annual Meeting and Executive Sales Planning Sessions (ESPS) will take place June 27-28 at The Galt House Hotel in Louisville, Kentucky.

The bulk of the meeting time will be devoted to ESPS, which are private, face-to-face business meetings with the partners that are most important to your business strategy. It's not as rushed as speed-dating, but the principles are similar, allowing you to meet with several people in one day without having to travel to multiple destinations.

Some fun activities are in store for the meeting, including an evening at the Muhammed Ali Center. 





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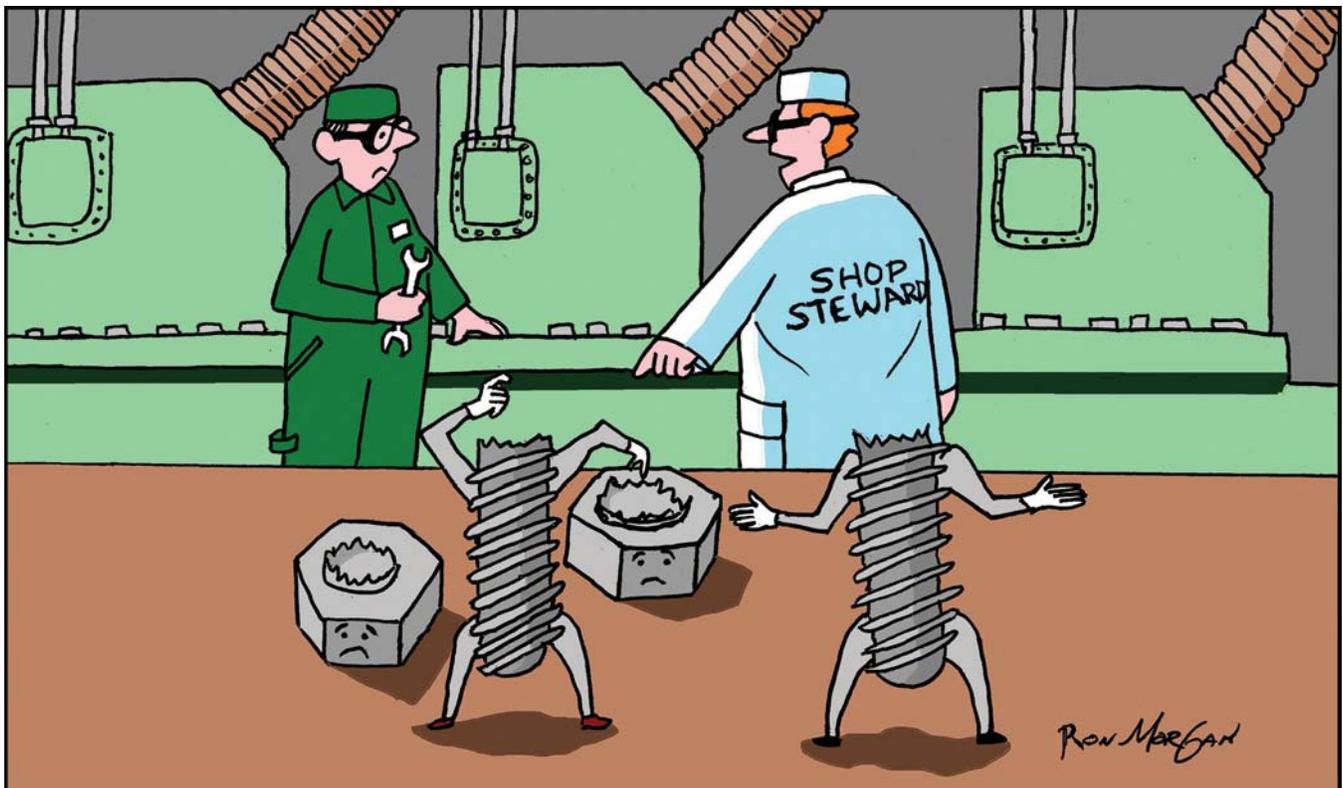
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DISTRIBUTOR NEWS

Advance Components has promoted Brad Burel to National Sales Manager.



For the past five years Brad has been the Regional Sales Manager working with customers in the Southwest and Western areas of the country. He also served as Advance's Regional Account Manager in inside sales. Brad will continue to offer customers value-added solutions and technical support while also furthering Advance's sales, marketing and business development initiatives.

"Brad has a proven record of facilitating long term business relationships with both customers and suppliers," said Advance President Gary Cravens. "His strengths are an asset that compliment Advance's mission to be the industry's premier resource for specialty fastening solutions."

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.

For more information contact Advance Components by phone at 1-800-275-7772, by email to: sales@advancecomponents.com or visit the website at www.advancecomponents.com.



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PAC-WEST FREE FTI WEBINARS AND NEW REGIONAL EVENTS

Free Fastener Training Webinar: New Benefit Exclusively For Pac-West Members

Members of the Pacific-West Fastener Association now are eligible for one free multi-seat registration for the Fastener Training Institute (FTI) webinar of their choice each year, a \$225 value.

Every month FTI offers a live fastener training webinar on a variety of relevant topics, taught by recognized industry experts.

Visit www.FastenerTraining.org/webinars for webinar information.

"FTI's monthly webinars provide high content, relevant, and convenient fastener product training. We're pleased to partner with Pac-West to offer one free multi sign-in webinar for each member yearly. This new member benefit demonstrates Pac-West's continued emphasis on employee development. Please make sure to take advantage of this new option," said John Wachman, president of the Fastener Training Institute.

Pac-West Launches Regional Events

The Pacific-West Fastener Association launched a new series of regional events on January 14 in Seattle, Washington, called Pac-West After Hours.

You can network just about anywhere: a trade show, a sales call, even where you work. The catch is that while all of these locations may be chock full of people who would make a great addition to your professional network,

these are not times and places that are optimized for networking.

Pac-West After Hours gives people in the fastener industry a chance to meet their peers and expand their professional networks. And there's no charge to attend.

Nearly 50 people attended the first event in Seattle, which took place at Via Tribunali in the trendy Georgetown neighborhood. Pac-West owes a debt of gratitude to Rick and Jill Peterson of All-West Components and Fasteners for organizing the event and hosting food and beverages.

You can see photos of the fun times at our Facebook page <https://www.facebook.com/PacWestFastener>

The next Pac-West After Hours is scheduled for April 7, 2016 at Faultline Brewing Company in Sunnyvale, California.

Details can be found at www.pac-west.org.

Future Pac-West Events

Save the date now for our 2016 Fall Conference, September 29-October 1, at the Embassy Suites Downtown in Portland, Oregon.

Complete conference information will be available at www.pac-west.org May 1.

In 2017 Pac-West will hold its Spring Conference and Tabletop Show March 15-17 at the Westin Hotel in Long Beach, California. This will be a joint conference with the National Fastener Distributors Association.

For more information about the Pacific-West Fastener Association visit www.pac-west.org. 

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2016 MWFA EXPO & GOLF OUTING JUNE 14th and 15th by Nancy Rich

2016 MWFA Expo & Golf Outing - Save These Important 2016 Dates! June 14th & 15th

2016 marks a year for the biennial MWFA Table Top Show as part of its Fastener Expo. The show will be held at Belvedere Banquets, Elk Grove Village, IL.

On June 14th fastener manufacturers, platers, heat treaters, secondary operations and companies providing services for the fastener industry are invited to exhibit.

Attendees are invited to enjoy the opportunity to visit over 100 fastener exhibitors in one location. Print your prints for special parts you may be seeking, you're bound to find them at the MWFA Table Top Show. The popular Fastener Bash sponsored by the MWFA and several fastener companies will follow the show.

For an updated floor plan or exhibit list, visit www.mwfa.net.

On June 15th, the fun will continue with the 64th Annual MWFA Golf Outing. A shotgun start is set for noon at Schaumburg Golf Club. This course is a great venue for this outing as it has 27 holes allowing more golfers and faster play. The outing will feature several contests as long as the longest drive "Bazooka Shot" hole.

More details and registrations for these events at www.mwfa.net.

Holiday Party Festive Time For MWFA Proof The Holidays Are A Time For Giving

The MWFA holiday party held on December 10th at Medinah Banquets was an awesome fun event for nearly 200 attendees. This event is also a time to collect toys for less fortunate children. Tables were piled high with toys and a bowl was filled with checks and cash providing toys to delight many children. Over \$2,000 is cash was also presented to the U.S. Marines Toys for Tots program.

Everyone's favorite Holiday guest of honor, Santa Claus, was present to help celebrate. Music That Moves

provided fun music for listening and dancing pleasure as well as karaoke. It's amazing the music talent in the fastener industry. Fastener voices shared many well known melodies with the attendees. To add even more fun to the event, a Photo Booth was available for pictures creating fun memories for the attendees!

Enjoy the Holiday party photos at www.mwfa.net.

Food and drinks were great but the joy of the group being together was the best.

This year's party is scheduled for December 8th. So as we move into 2016- Happy New Year!! Remember, it's never too early to start shopping for your toys for Toys for Tots to be collected at December's Holiday Party!

2016 MWFA Calendar of Events

May 12th	Dinner Meeting, Rockford, IL
May 19th	Heat Treating/Plating (on site training)
June 14th	35th Annual Fastener & Table Top Show Belvedere Banquets, Elk Grove, IL
June 15th	63rd Annual Golf Outing Schaumburg Golf Club, Schaumburg, IL
August 18th	Baseball Game in Cleveland with NCF Cleveland Indians vs Chicago White Sox
August 22nd to 26th	Certified Fastener Specialist Class in conjunction with Fastener Training Institute
September 15th	Add on Sales of Class C Products
October 6th	MWFA 70th Anniversary Celebration Party and Scholarship Awards
December 8th	Holiday Party Medinah Banquets, Addison, IL

MWFA Welcomes New Members

ASMC Industrial, Libertyville, IL
Fort Dearborn Enterprises, Inc., Bellwood, IL
GF&D Systems, Muskego, WI
Kerr Lakeside Inc., Euclid, OH 

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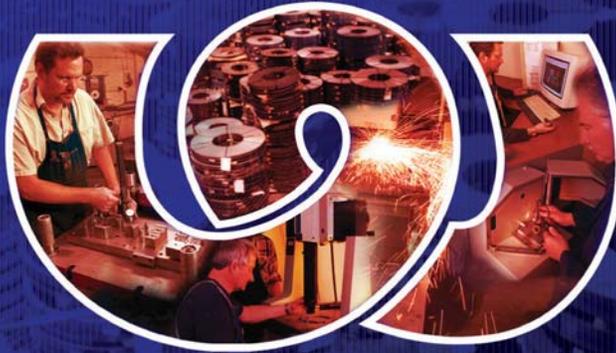
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#OLANDERPROUD PARTY & LOU'S RETIREMENT

After a very productive 2015, The Olander Company began 2016 with unstoppable momentum. Having just completed their newly redesigned website and building remodel, there was one thing left to do... throw an amazing party on January 21st!

The new website www.olander.com was designed and customized with current and future customers in mind. It has a fresh new look and feel, as well as user-friendly features including improved ease of navigation, product images, and technical documentation.

The building in Sunnyvale, California, that The Olander Company, Inc. has called home for 40 years underwent an extreme remodel, leaving behind its vintage look. Cindy Olander, wife of owner Ron Olander, was the inspiration and the visionary behind the remodel, bringing the look of Olander in line with their supreme level of quality and service.

The remodel included fresh new landscaping, new signage, and a completely redesigned interior including the kitchen, workstations, and conference rooms.

The #OlanderProud Party not only celebrated Olander's changes, but also recognized Lou Boyd for his 44 years of dedicated service with The Olander Company, as he was counting down the days until his fast-approaching retirement. Lou has been an esteemed member of Olander since 1972. He was the 8th employee in the company and has grown and adapted with

the changes of Silicon Valley. During his time at Olander, Lou worked hard, played hard, and saw his efforts pay off, as he was able to watch Olander grow and rise in success. He met the love of his life, Ellen, while working with her at Olander-and the rest is history!

"Not many can match 44 years at their job, and we, at

Olander, are grateful to have benefited from Lou's service. His display of loyalty and dedication is what has turned Lou from an employee into forever Olander family. Lou will be missed in the office, but we wish him the very best



ABOVE: OLANDER FAMILY CELEBRATING AT #OLANDERPROUD PARTY

RIGHT: ANNIE OLANDER AND LOU BOYD

BELOW: EMPLOYEES FROM WOODINVILLE, WA OFFICE

PHOTOS COURTESY OF LIGHT FX PHOTOGRAPHY



in his retired years! Plus, we know we'll be running into him at the fastener conventions!" - Annie Olander, CEO

Employees from the other two Olander locations, The Olander Corporation (Woodinville, WA) and

Olander Fasteners (Rancho Cordova, CA) were also in attendance.

The entire Olander team was honored to be able to share such a special evening with customers, vendors, and their community in appreciation of their partnerships that have helped shape the Olander of today.  Photos on page 145

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DISTRIBUTOR NEWS

Hi-Tech Fasteners of Canada, Inc. of Mississauga, Ontario, announced that it has purchased the industrial fastener business of Wesco Aircraft Canada. In addition to the Mississauga warehouse, the acquisition will also give Hi-Tech Fasteners of Canada the opportunity to service western Canada with local inventory in British Columbia.

"We are tripling the size of our Mississauga warehouse and will also capitalize on Wesco's presence in Vancouver," said Hi-Tech Fasteners of Canada Sales Manager Steve Hill. "In addition to our experienced team here, we are adding some key individuals."

Based in Frederick, MD, Hi-Tech Fasteners, Inc. is a factory authorized stocking distributor for dozens of leading engineered fastener, electronic hardware, and mechanical component lines specified for high-tech and commercial industries.

For more information contact Hi-Tech Fasteners at Tel: 1-800-466-1940, Fax: 1-877-565-6686, Email: sales@hitechfasteners.com or visit them online at www.hitechfasteners.com.

CROSSWORD PUZZLE

INTO THE TOOL SHED

ACROSS

1. "For ___ a jolly..."
4. Skin mark
8. Calendar pg.
11. Surrounded
15. Louis XVI, to Louis XVII
16. Hot spot
17. Skin woe
19. Toolmaker's accompaniment for a burger?
22. Suddenly, in the toolroom?
23. First ___
24. Russia's ___ Mountains
25. ___ for; chose
27. Choir members
28. Daubs
30. Come forth
33. Transcript abbr.
35. With 36 Across, makes an offense worse, to a toolmaker?
36. See 35 Across
42. ___ on; trampled
44. Mend again
45. Despised
47. Pump, for one
50. Part of the army during WWII
52. Nauseated
54. ___ over; faints
55. Lively dance
57. Cereal grain
60. Santa ___, CA
61. Season again
62. At ___ for words
63. Plants firmly
65. Afternoon social
67. Diddley & Derek
68. Toolmaker's breakfast?
72. Statute
75. Feel awful about
76. Is contemptuous
77. Employee's joy
79. Fuddy-duddies
84. Born
86. Zenith rival
87. Syria's neighbor
88. T. S. ___
89. Arctic Cat or Quad, for short
90. RMN forerunner
92. Univ. donor, often
93. Wine containers
95. Very willing
100. Acceptable
102. Sees the South, to a toolmaker?
105. Piece of wood
108. Sis, for one
109. Doodads
110. Cooked in a pot
112. Get up
117. Simon ___ of the Boston Bruins
119. Thy
121. Laila or her dad

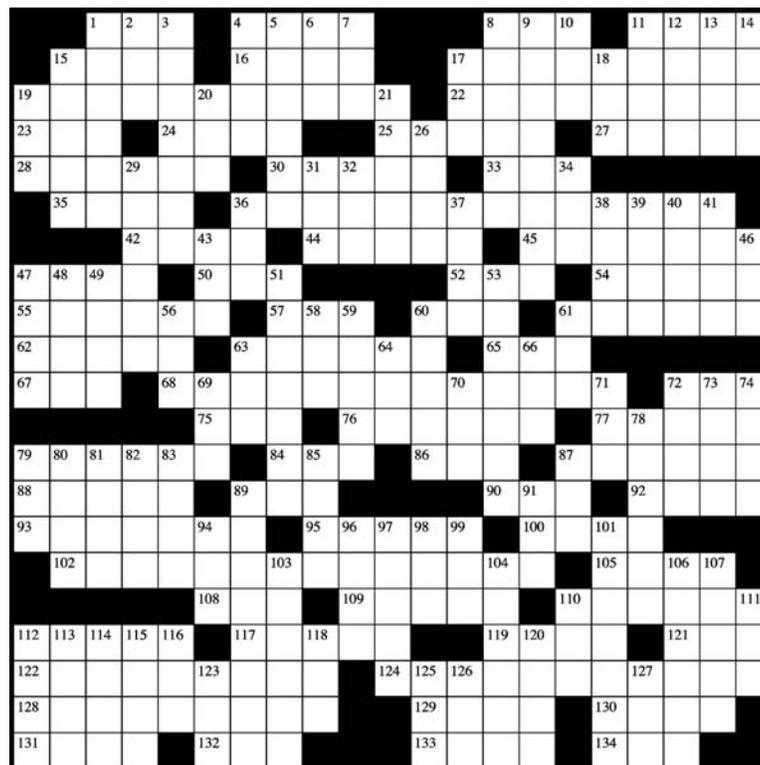
122. Attacks verbally, to a lisper in the toolroom?
124. Food that makes a toolmaker pucker?
128. Argued
129. Decorative nail
130. Mothers of fawns
131. West, for one
132. Ames and Koch
133. Arnold and Jones
134. Ages and ages

DOWN

1. Paid attention
2. Seabird
3. More firmly fastened
4. Dagwood's favorite spot
5. Controversial stand-up comic George
6. "___ was saying..."
7. Mailman's beat: abbr.
8. City in New York
9. Coricidin tablet, for one
10. La la lead-in
11. Brit's lockup
12. Contraction
13. Puerto ___
14. Fly halves?
15. ___ donna
17. Lady Bird's successor
18. Give ___ go; attempt
19. Existed
20. Periods of time: abbr.
21. All ___ Day; 11/2
26. Sampras or Rozelle

29. San Diego State athletes
31. Kazakh, once: abbr.
32. Cash's "A Boy Named ___"
34. Twelve meses
36. Neighbor of Nev.
37. Bed size
38. Boxer LaMotta
39. Western Indians
40. "Cheers" actress
41. Shout
43. Possess
46. Summer hrs.
47. Wound covering
48. Ring of light
49. Yoko and others
51. Remark
53. Football pass
56. Sooty particle
58. Fortas or Vigoda
59. Rudely brief
60. Lou Grant's portrayer
61. Cleaning item
63. Australian bird
64. ___ Rather
66. Actor Marshall & others
69. Esses' forerunners
70. Holiday month: abbr.
71. Yrbk. section
72. Dishonest one
73. Bewildered
74. Tuesday, for one
78. Diamond-patterned sock
79. Gender: abbr.
80. Sainly king
81. 1958 Oscar-winning film

82. Zippy atoms
83. Needle case
85. At any time
87. Letter trio
89. Gave, as homework
91. Present topper
94. Hood and Whitney: abbr.
96. Related
97. Like some condo communities
98. 90° from NNW
99. McNamara's monogram
101. With a leg on either side of
103. Lets up
104. Haven
106. Arouse
107. Tattles
110. Get full
111. Pass on
112. "M*A*S*H" actor
113. Bug killer
114. "___ deal!"
115. Pretense
116. Brain wave test, for short
118. Creator
120. Auto pioneer
123. Wrath
125. UV forerunners
126. OJ trial judge
127. Avian sound



NFDA/PAC-WEST CONFERENCE - LUNCHEON AT SUZANNE DUKE'S RESIDENCE - MARCH 4, 2016



Photos Courtesy of Greg Christensen Photography



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FAX 815-874-0100

EMAIL sales@semsandspecials.com

WEB www.semsandspecials.com

SEMS AND SPECIALS HITS A MILESTONE OF INNOVATION

Sems and Specials, Inc. celebrated 25 years in business on December 19, 2015. The vision of the company has always been to be a domestic specialized fastener manufacturer that supports the distribution environment. The company was founded by Bruce Hayes and one year later Jim Kelam joined the company as a partner and developed our sales program. We have now grown to 90 employees that produce 450 million fasteners annually.

Our early business model was high volume standard Sems products; we were the number one supplier of standard sems to the distribution environment. Today, 60% of our production is specialized manufacturing. We have grown by customer demand to have one of the largest band widths in our market, from Industry Standards to "Customized Manufacturing." Our



SEMS AND SPECIALS PARTNERS -
JIM KELAM (LEFT) AND BRUCE HAYES (RIGHT)

line of products range from #2 (M2) through 1/2 (M12) diameter. We support all generic Triroundular and Plastic products, Swageform® is our Registered Trademark. We are able to produce BXCA self-aligning thread forming screws, TMXS thin sheet metal fasteners, Saddle Clamps, Drill Screws, special Sems configurations and most recently added several Multi-Station machines of which has created "Added Value" to many of the specialized items we produce. We have designed and built special secondary equipment for specific customer requirements to add value and reduce manufacturing costs.

One of our biggest strengths is flexibility. Sems and Specials will stock product, ship customer direct, pack in customer cartons or returnables, bag in bulk or special kits, custom pallet sizes and develop programs to add value and reduce costs. 

BUSINESS FOCUS ARTICLE

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DISTRIBUTOR NEWS

DDI System, a leading ERP software provider for wholesale distributors, released Inform ERP version 21.0.15, with significant new features for Wholesale Distributors.

Innovative developments include cycle count analysis, expanded inventory visibility and new key performance indicator (KPI) dashboards. Inform ERP adds a full mobile selling suite, including orders and quotes, with an intuitive CRM activity scheduling workflow.

These latest tools enable distributors to gain a better understanding of their business performance, achieve better inventory control and empower sales teams with the CRM information they need to excel.

Among the new tools added, distributors now have these added features:

- **Cycle Count Scheduling** – Keep your inventory in check with rank-driven analysis and count scheduling for each warehouse. Driven by Inform's automated cycle count analysis, the Cycle Count Scheduler plans daily counts that focus on your fastest moving, most important products.

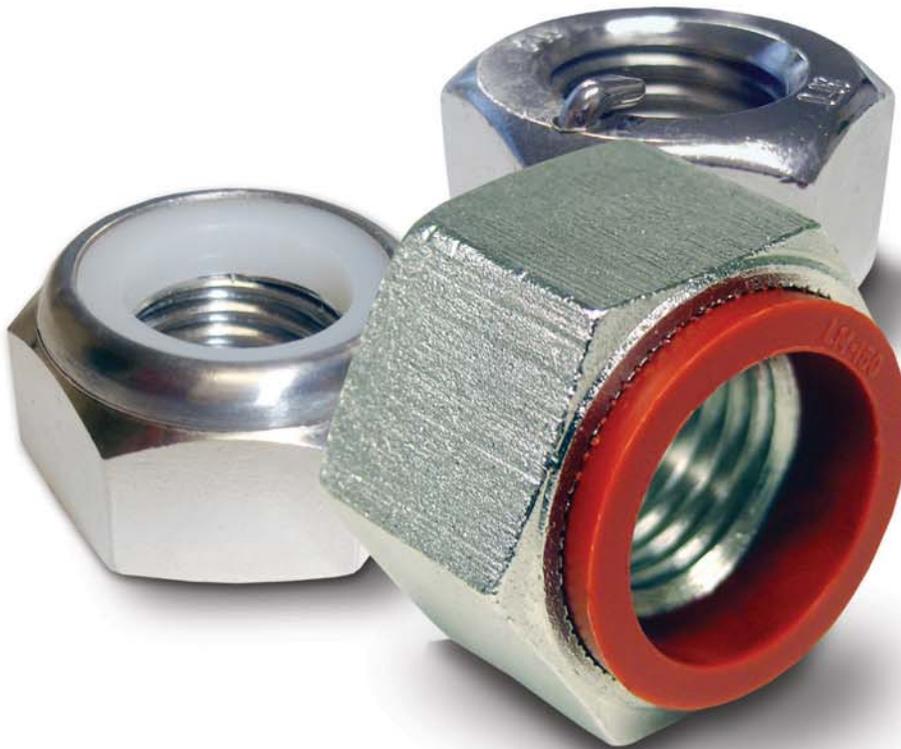
- **Inventory Visibility** – Instantly determine where your products are throughout the entire receiving, picking, transferring and delivery workflow. Drive out the costs of tracking down misplaced stock or inventory in transit, regardless of the number.

- **KPI Dashboards** – 20 new Key Performance Indicators drive business decisions on sales, collections, and inventory. Track these pivotal metrics down to the branch, customer, product, and salesperson level to make quick decisions based on facts, not just intuition.

- **Mobile Contacts & Activities** – Sales teams now have mobile access to their quotes, orders, contacts, and CRM activities. Monitor backorders, territory sales and profit performance, and identify and act on sales opportunities driven by Inform's unique Due-to-Buy sales history analysis.

Distributors can see the benefits of Inform at www.ddisys.com or by calling DDI for a product demonstration or more information at (Toll-Free) 1-877-599-4334.

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JOE GREENSLADE RECEIVES ASTM AWARD FOR STANDARDS WORK

Joe Greenslade Receives Award for Work on ASTM International Standards for Fasteners

Joe Greenslade, director of engineering technology at the Industrial Fasteners Institute in Independence, Ohio, has received the Fred F. Weingruber Award from ASTM International Committee F16 on Fasteners.

The committee noted, "Greenslade's leadership and dedication have helped make F16 a premier body for fastener standards." An ASTM member since 1994, Greenslade works on multiple F16 subcommittees, as well as on Committee B08 on Metallic and Inorganic Coatings.



JOE GREENSLADE, DIRECTOR OF ENGINEERING TECHNOLOGY AT THE INDUSTRIAL FASTENERS INSTITUTE

Greenslade assumed his role at the Industrial Fasteners Institute in 2007. Prior to that he was president of Greenslade & Co. Inc., based out of Fort Worth, Texas. He mainly specializes in mechanical fastener design, applications, manufacturing and quality, and holds 13 U.S. patents.

Outside ASTM, Greenslade is a member of the American Society of Mechanical Engineers, the Industrial Fasteners Institute, the International Organization for Standardization, the Research Council on Structural Connections and SAE International. He

holds a bachelor's degree in business management from Texas A&M University. ●

TECHNICAL ARTICLE

ASTM INTERNATIONAL

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292 Sugarberry Circle, Houston, TX 77024 TEL 713-952-5472 FAX 713-952-7488 EMAIL swfa@swbell.net WEB www.sfa-fastener.org

JOINT SFA/SEFA 2017 SPRING CONFERENCE IN NEW ORLEANS

Southwestern Fastener Association and the Southeastern Fastener Association will join together for their 2017 Spring Conference in New Orleans, Louisiana, April 19 to 21. The two organizations have not held a joint meeting since 2000. The meeting will begin with a welcome reception on Wednesday, April 19. A championship golf course will be selected for the popular golf outing on Thursday and a reception and Dinner will be Thursday night. Business meetings will be conducted by both Associations on Friday morning and the SEFA Table Top Expo will be Friday afternoon, April 21. Additional details on the meeting will be announced in the next few months.

SFA Dinner Meetings

Planning is underway for SFA Fall Dinner Meetings. September 13 has been selected for Oklahoma City and October 4 is the date for the DFW area. The SFA Board of Directors recently voted to move the Fall Dinner Meetings to various areas of our Membership to enable a greater number of members an opportunity to participate in SFA events. Specific locations and speaker information will be announced in the Summer Edition of the SFA Newsletter.

SFA Welcomes New Members

SFA welcomes Briksen Stainless Steel Fasteners, Stanford, Florida; Elgin Fastener Group, Becksville, Ohio; BTM Manufacturing, Kansas City, Missouri; American Metal Fasteners, Houston, Texas; Texas Bolt & Nut Corp., Houston, Texas and Hi-Q Fasteners, Santa Fe Springs, California as new members of SFA.

SFA Scholarships

The SFA Board of Directors are in the process of grading the numerous Scholarship Applications that were received for 2016/17 academic school year. SFA established a scholarship to recognize the contributions Will Rodriguez, The Fastener Connection, made to SFA and the Fastener Industry. The Rodriguez scholarship is funded by the scholarship raffle conducted during each SFA Expo.

Additional scholarships are awarded in the name of Gene Petty, an early organizer of SFA and a strong proponent of education.

Scholarship winners will be announced in the Summer Edition of the SFA Newsletter. ●

ASSOCIATION ARTICLE

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These can, of course, be either external or internal drives depending on the need for clearance for wrenches and other installation tools. Since the side walls are parallel to the axis of the fastener there is no need to worry about the driving tool being pushed out (cam-out). This is also important from an ergonomic standpoint since it requires no additional axial load on the driving tool.

The bearing areas must be large enough to prevent the head or nut to embed into the substrate (the clamped material). Embedment can be a big problem since we can lose part of the preload. If this happens to our joint, more of the external load will hit the fastener and potentially cause fatigue failure. Using flanged fasteners can prevent embedment, but will require higher torque values due to the larger friction surface.

High strength can be a double-edged sword. Higher strength = higher hardness and less elasticity (elongation after fracture), and also higher risk for embrittlement due to hydrogen failures or stress corrosion cracking. It is very important to balance the need for high strength with potential negative effects. We should, of course, utilize as much of the fastener strength as possible since we have paid a higher price for it. The proof load level (all or part) is the best starting point for the joint design.

For high strength tension joints we should always use coarse threads since the larger root radius means lower stress concentrations than finer pitches. This lowers the probability of fatigue failures in the threaded portion.

Longer fasteners are much more “forgiving” than short ones; they will also increase the clamped volume relative to the diameter of the bolt/screw. A ratio of 1 to 4 (diameter vs. clamping length) is what I recommend to my engineering students as a guide. This ratio will also reduce the risk of vibration loosening.

[2] Joint Materials And Geometry

A stiff joint works a lot better than a soft joint. The most ideal condition is when the fastener act like a flexible spring and the joint as a stiff body (let’s think about the fastener as a glorified rubber band). That way we can load up high compressive energy in the joint material and any external load fluctuations will mainly be absorbed by the clamped parts and only a smaller part by the fastener. There should also be a good “harmony” between the various parts regarding galvanic interactions. Any plating or coating should protect both fasteners and joint materials

from corrosion. We have today a lot more useful options to protect fasteners than ever before. Coatings require no electrolytic process for application, just a dip-spin-bake procedure with no hydrogen involved. Coatings typically have much higher protective properties than the more common electroplating methods. And, combined with lubricants, the scatter in resulting tension can be kept very tight.

The shape/geometry of the joint materials is one of the most important variables. The more of the joint materials we are compressing with the preloaded fastener the stiffer is the joint. As mentioned before the joint will therefore perform much better. This can easily be explained by using Hooke’s Law.

[3] Assembly

We can choose various torque methods, yield point control, hydraulic or thermal tensioning, “jack bolting” (type SuperBolt) to develop the desired clamping force in the joint. The most common being to just apply a torque (a moment of force) to achieve the target tension. The variables with this method are many (too many) and some of the tools should be banned. There is some unfortunate belief by some mechanics (and others) that the more racket/noise the tool makes the better it performs. It is normally the other way around. High assembly speed can be important when short cycle time is required, but should not be pushed too far. Once all joint parts are mated (brought together) and clamp load is building up, the rotation goes down to zero rather quickly.

To combine some initial threshold torque (determined by experiment) we can, from that point, use the geometry of the thread (i.e. pitch) to calculate the rotation necessary to stretch the fastener elastically to get to the target preload. This method would give us a much better control of the tightening, but requires more training of the assembly personnel. It is also slower than just shoving it down to a “final” torque level with a high speed impact or impulse wrench.

The yield point control method means that instruments will indicate when the fastener is going from a linear to a nonlinear stretching (from elastic to plastic). This type of tightening is used where a relatively small embedment is likely and is very common in automotive engine building. The cost of assembly equipment is a lot higher than for a simple torque wrench.

CRESCENT: WE'RE TAKING A FRESH LOOK

Crescent has always prided ourselves at "staying at the head of the pack". In today's market it is a necessity to be alert to our customer's needs and to meet them head on. With that in mind Crescent has added new product capabilities. With the addition of 000's, and longer lengths, Crescent's product range has grown significantly. Crescent has also added additional drive styles to better address our customer's requests. There are new machines and new team members at every step from sales to shipping and all of the departments in between.

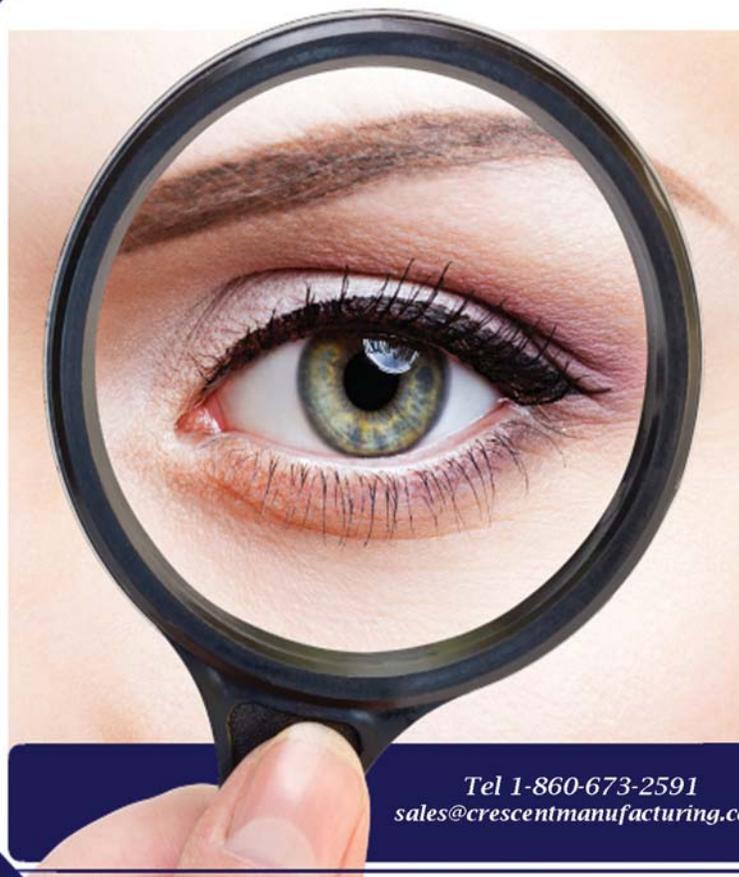
In sales, Ginger Doherty is Crescent's recently promoted Global Sales Manager. Ginger has over 17 years of extensive sales experience at Crescent. Crescent's newest Sales Associates include Wendi Gagnon and Kristi Kavula. Marion Lederman with 36 years of experience rounds out Crescent's sales team. Crescent also has

several outside sales representatives, located around the world as well. Crescent has added a full time tool maker, Lukas Klepacki. Luke has a BS in Manufacturing as well as extensive tool and die experience. Crescent has purchased several pieces of tool room equipment, upgrading our tooling capability. As a result, Crescent has been able to reduce lead times by reducing tooling costs and tool up time. Crescent has passed these savings along to you.

With a good mix of experience and new ideas, we believe we have achieved a higher level of service and a more responsive company. All of these changes are the result of a changing culture at Crescent. There have been many new ideas and reviews of previous policies. Fresh eyes, and a more aggressive attitude, has given us a more competitive approach, always with an eye to improving our pricing, delivery, and customer service. ●

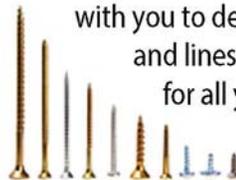
BUSINESS FOCUS ARTICLE

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The Mechanism

Although experts still don't completely agree on the exact intricate workings of hydrogen embrittlement failures, it is generally agreed that the gross failure mechanism follows several universally understood steps. When high strength steel fasteners (those above 180ksi ultimate tensile strength) are tensile stressed (which is the condition of many bolted joints), the atomic hydrogen present in the part from either internal or external sources, will move to the areas of high stress concentration in the fastener. In a bolted joint, this is normally in either the underhead fillet radius area (junction of the head to the shank) or at the first engaged thread. As this mobile hydrogen begins to collect around the grain boundaries in these areas, the normally ductile fastener begins to exhibit brittle behavior in these areas. If the hydrogen reaches a critical level, eventually a microcrack forms, progresses, and reduces the mechanical integrity at that location resulting in an overload situation. These failures usually occur at stresses much lower than the specified strength of the part in a tensile test. This often displays itself with a catastrophic fastener break or head separation.

Failure Surface

When a part failure occurs, usually one of the first things that happens is an investigation is started into the cause of the failure. When a hydrogen embrittlement failure is investigated, inevitably it is subjected to a metallographic analysis. One of the telltale signs of a hydrogen embrittlement failure is that the fracture surface will display either partial or complete morphology of Intergranular Brittle Fracture. When a part breaks in a brittle manner, it may do so in one of two ways;

[1] by Intergranular Brittle Fracture, or,
[2] by Cleavage. The difference is very telling under magnification with a cleavage failure indiscriminately cutting through the fracture surface while an intergranular failure path follows the grain boundaries. It is analogous to a crack in a brick wall, if the crack follows the mortar joint it is like an intergranular failure mode while a crack directly through the brick would be like a cleavage failure.

It is a common and often regrettable mistake for an investigator not knowledgeable in fastener engineering to recognize the intergranular failure mode and conclude that the failure is thus the result of

hydrogen embrittlement. This, however, is not always the case, and one must be careful not to jump to unsubstantiated conclusions. Other fractures as the result of things like untempered Martensite, temper embrittlement, and quench cracking can exhibit intergranular behavior. Therefore, one must be careful and remember that hydrogen embrittlement fractures will all exhibit evidence of Intergranular Brittle Fracture but not all Intergranular Brittle Fracture is from hydrogen embrittlement.

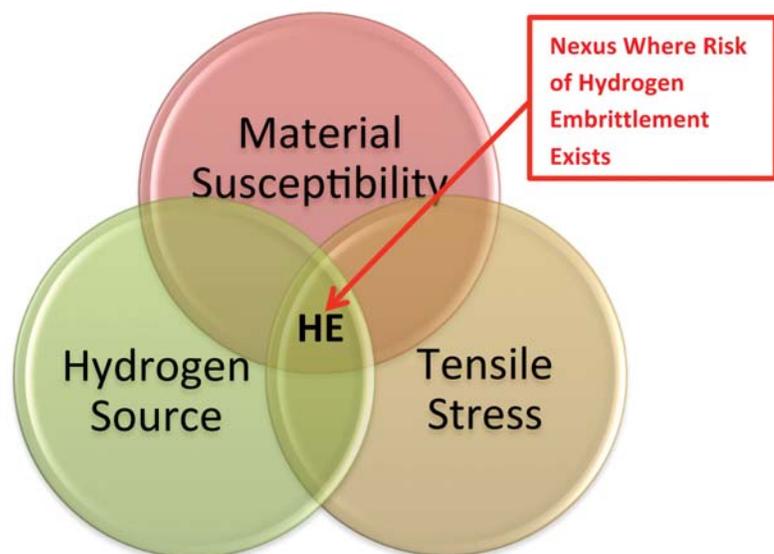
What Conditions MUST Be Present For Hydrogen Embrittlement To Occur?

Figure 1 shows the three conditions that must be present for a part to fail as the result of hydrogen embrittlement. It is only at the nexus of these three that a hydrogen embrittlement failure can occur. Remove any one of these three conditions and the fastener is safe from hydrogen embrittlement. The three conditions are:

[1] the steel must possess a susceptibility to hydrogen damage,

[2] the part must be stressed, and,

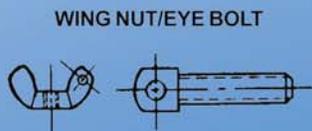
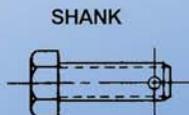
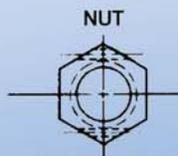
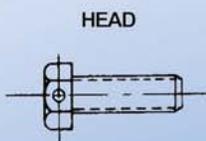
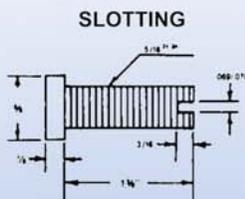
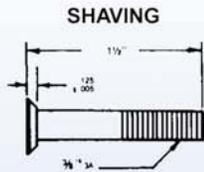
[3] the part must have been exposed to a source of atomic hydrogen (either from an internal or external source). Although these three conditions are what expose a part to hydrogen embrittlement risk, time is a fourth condition required for failure to occur. As described in the above section on the mechanism, the movement of hydrogen is a diffusion process, or one that takes time to occur. The amount of time for failure to take place is often an important clue to whether the failure is the result of IHE or EHE.





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This change is usually not noticeable. That is, most likely the nut can still be threaded along the threads of the fastener. However, if one were to take hold of the nut and the hex head and pull both in opposite directions while loosening the nut, a grittiness between the threads can be felt as the nut is rotated off. This is friction.

So now, when they say “but I use the same torque”, the answer is: torque is a function of friction and therefore becomes irrelevant when the nut reused. Friction changes with each reuse as the internal threads of the nut are deflected and compressed. A torque wrench, or your elbow for that matter, sees 100% work effort. The wrench does not know how the installation friction is divided.

Using approximate numbers under controlled conditions, but close to those values achieved from actual testing, a new nut and fastener will consume 90% friction between the mating threads and at the nut interface when tightening. Therefore, 10% wrenching energy is applied to tensioning the fastener after the 90% friction has been overcome. If the threads of the nut deflect enough to increase the friction between the threads by only 2% when the nut is reused, then the amount of wrenching energy available to tighten the nut decreases to 8%. The overall torque output still adds up to 100%.

Now, the connection is not as tight as it was when first installed. Again, each time the nut is removed and reused, the thread friction increases, which decreases the amount of applied torque required to achieve proper tension.

The nut reuse phenomena becomes very critical in many applications. It is especially critical with wheel nuts since wheels are removed and replaced for tire rotations, replacements, brake inspections and repair, etc. It has been statistically found that any vehicle with over 120,000 miles is susceptible to wheel stud failure from metal fatigue because of the loss of clamp load from the wheel nuts being reused many times.

“I Torqued Your Bolts And Still Get Failures”

This can develop into a whole set of topics, but the main thing here is to realize that printed torque values are to be used as a guide. There are so many variables involved with tightening any fastener that torque values are calculated based on the fastener's specified physical properties in the ‘as produced’ condition, not necessarily what actually represents the final product, joint assembly or installation method.

Take plating, for example. When torque formulas were

first developed decades ago, the plating of choice was zinc. At that time, zinc plating solutions were made with a cyanide electrolyte. This was about 40-60% efficient, promoted hydrogen embrittlement and produced a rough, porous surface. Hence, the ‘k’ factor (commonly referred to as the coefficient of friction) was higher than after the introduction of non-cyanide zinc alkaline and zinc acid plating solutions in the mid 70's. These new electrolytes were over 90% efficient, reduced hydrogen embrittlement problems and produced a much smoother deposit. This changed torque values and the ‘k’ factor.

For decades we have had fairly stable torque tables for plated zinc fasteners. Until now.

The torque world has changed since the adoption of RoHS (Restriction of Hazardous Substances) Directive 2002/95/EC which banned the use of hexavalent chromium, Cr+6. The valence number is its oxidation state and the Cr+6 has been found to be a carcinogen. The Cr+6 has been replaced with trivalent chromium (Cr+3), a non-carcinogen coating.

The Cr+6 produced an iridescent yellow color which provided better corrosion resistance than the clear chromate conversion coatings, primarily due to its thicker coating. The Cr+3 coatings are thinner than the +6 and therefore have a much lower corrosion resistance rating in a standard comparative neutral salt spray test. To compensate, the coatings need to be thicker or have a supplemental top coat or sealer applied. The hexavalent coating was self-healing whereas the trivalent coating is not.

It is the variation with the thickness of the Cr+3 conversion coatings produced from different plating companies that is producing a wide variation in torque values on fastener products with the Cr+3 conversion coatings. Notably, recent torque experiments have shown that with many of the Cr+3 fasteners, previously stated torque values had to be increased by 7-10%.

Therefore, variations may be experienced not only from different platers, but even from how the coating is applied to different sealers used, if any. Then, combine the same plating variables from the fasteners to the nuts which are also plated from different sources.

Standardizing on product sourcing, vendors and platers, can help reduce customer problems.

If you have any particular problems or answers you would like to see printed and explained, please contact me. 

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- **Use images sparingly** Although there are perfectly legitimate reasons for fastener distributors to embed images in emails, such images can increase your spam score. Indeed, some spam filters auto-route emails to the spam folder, simply for containing a business logo signature at the close of an email.

Unfortunately, there is no cure-all to avoid such unfair treatment, since every spam filter – and every IT security person at companies across the globe – has its own policy on how images in emails are treated.

- **Avoid image-only emails** This is a major red flag, since many spammers try to avoid text-content checking by sending an image of an entire page of text, rather than sending the individual lettering for the message. Spam filters are wise to this ruse, and often auto-route image-only emails to spam boxes without a second thought.

- **Deep-six dirty tricks** Some marketers may think they're being clever by designing a pitch with a subject line that begins with Re: – as if it's a response to a previous message. Others will send a marketing message with Fwd: in the subject line. And still others try inserting random characters in the subject line – such as f.o.o.l.e.d.y.a – to try to throw off spam filters.

Problem is, email has been a mass medium since the early nineties. So seasoned spam filters have seen this all before, and often summarily auto-route such messages to the junk folder. Essentially: if you can think of a trick, chances are spam filters are already aware of it, and will punish you for it.

- **Code your HTML correctly** Experts advise fastener distributors to send plain, non-HTML email whenever possible. But when HTML mail – such as emails using stationery, formal layouts, images, and the like – is a must, ensure your IT person has checked the program generating your HTML-based messages, and can confirm

the resulting HTML is clean.

- **Use attachments sparingly** Given that hackers infiltrate computers every day by sending innocuous-looking attachments poisoned with malware, many people are extremely reluctant to open marketing messages that include an attachment. Ditto for everyday correspondence you're sending to someone who doesn't know you.

- **Avoid purchasing mailing lists** Unfortunately, pre-packaged mailing lists often include hundreds of email addresses that are no longer valid – the use of which will greatly increase your spam score, since all of those messages will bounce back to you.

"Don't buy a mailing list," says Matthew Stibbe, CEO, Articulate (www.articulatemarketing.com), an online marketing provider. "They're self-evidently spam."

- **Check your IP reputation** Free services like WhatIsMyIP Address BlackList Check (www.whatismyipaddress.com/blacklist-check) will tell you your computer's IP address, and let you know if any of the major spam-checking services consider the address a spam source. It's important to know: Your IP is essentially the address of your computer on the Internet. So if it's blacklisted for some reason, anything you send from your computer will be seen and treated as spam by the blacklisters.

- **Ask to be whitelisted** In an ideal world, every customer who receives your marketing messages has already whitelisted you. Essentially, whitelisting signals to a computer that messages from an email address are pre-approved and should pass through a company's spam filters, no matter what.

Sender email addresses can be whitelisted network-wide by your IT department, or whitelisted for individual computers using preference tools in the email client you use to receive email.



ABOVE: OREGON SENATOR RON WYDEN CO-SPONSORED THE U.S. CAN-SPAM ACT.

BELOW: CANADA PRIME MINISTER JUSTIN TRUDEAU OVERSEES AN ANTI-SPAM LAW THAT'S EVEN TOUGHER THAN ITS U.S. COUNTERPART.



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On July 31, 2015, **Adolf Würth GmbH & Co. KG** (“Würth Group”) purchased **Northern Safety & Co. Inc.**, doing business as Northern Safety & Industrial (“Northern Safety”). Founded in 1983 and head-quartered in Frankfort, New York, Northern Safety is a national distributor of personal protective products, safety equipment & supplies and general industrial supplies. A privately-owned company, Northern Safety operates 19 stocking locations across the United States and employs more than 470 people. The company generated net sales of \$190 million in 2014. Following the transaction closing, Northern Safety became a business unit of Würth Industry of North America (“WINA”), one of the largest fastener and Class C component distributors in North America. Northern Safety will continue to operate under the same name and maintain the same workforce and headquarters. Headquartered in Künzelsau, Germany, Würth Group is a global manufacturer and distributor of fasteners, assembly components and general industrial supplies. Würth Group employs more than 67,000 people worldwide and generated net sales of EURO10.1 billion in fiscal year 2014.

Purchase price: not available



On August 4, 2015, **Steel & Tube Holdings Limited** (“Steel & Tube”) purchased **Manufacturing Suppliers Limited**, doing business as Fortress Fasteners. Founded in 1980 and headquartered in Auckland, New Zealand, Fortress Fasteners is one of the largest fastener distributors in New Zealand with eight stocking branches and approximately 100 employees. A privately-owned company, Fortress Fasteners supplies a broad range of OEM customers, along with the residential and commercial construction markets. Steel & Tube is one of New Zealand’s largest steel service center operators with 48 branches and more than 800 employees. Steel & Tube (New Zealand Stock Exchange: STU) generated net sales of NZ\$502 million (US\$341 million) in the fiscal year ended June 30, 2015.

Purchase price: NZ\$32 million (US\$21.7 million)



On August 4, 2015, **Garton Limited** purchased **Boka Bolt Supplies Limited** (“Boka Bolt”). Founded in 1991 and located in Runcorn, England, Boka Bolt is a fastener distributor which supplies a diverse range of industrial OEMs in the United Kingdom. Established in 1991 and located near Manchester, England, Garton is a privately-owned manufacturer and distributor of fastener products for the UK general industrial market. Garton is comprised of three business units operating in the United Kingdom: Smith Bollough (manufacturing); Thomas Smith Fasteners (distribution); and Garton International (distribution & export). Following the transaction closing, Boka Bolt will maintain its existing operations and will continue to trade under the Boka Bolt name.

Purchase price: not available



On August 4, 2015, **Applied Industrial Technologies Inc.** (“Applied Industrial”) purchased **Atlantic Fasteners Inc.** Founded in 1981 and located in Agawam, Massachusetts, Atlantic Fasteners is a distributor of fasteners and Class C components, supplying OEM and MRO customers located primarily in New England. An employee-owned company, Atlantic Fasteners specializes in providing customers with advanced supply chain management services. The company employs 48 people and generates annual net sales of approximately \$13 million. Founded in 1923 and headquartered in Cleveland, Ohio, Applied Industrial is a value-added distributor of bearings, power transmission components, fluid power products and a diverse range of related mechanical components. Applied Industrial (NYSE: AIT) operates from more than 560 locations in North America, Puerto Rico, Australia and New Zealand. The company employs more than 5,800 people and generated net sales of \$2.75 billion in the fiscal year ended June 30, 2015. Following the transaction closing, Atlantic Fasteners will become a business unit of the Applied Maintenance Supplies & Solutions (“Applied MSS”) division.

Purchase price: not available



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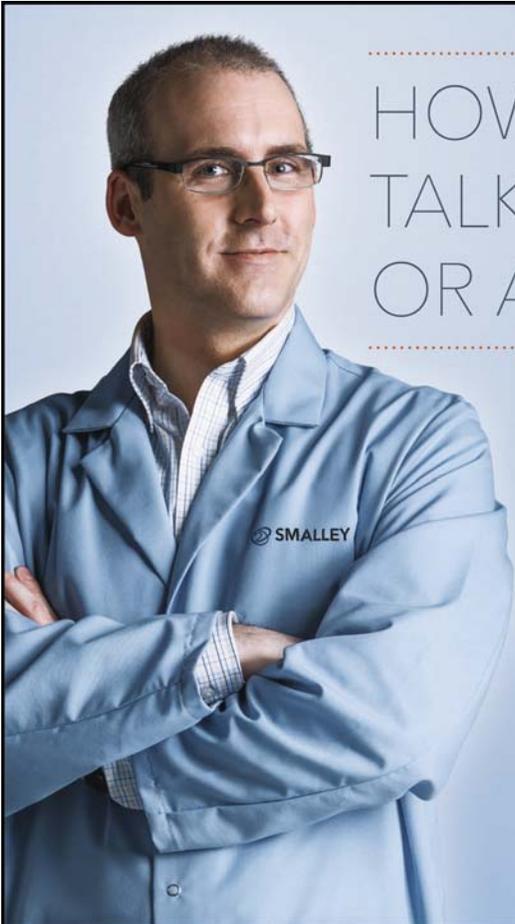
the promise of space savings and continue to provide spring height reductions of nearly 50% compared to standard coil springs. "We are now able to offer engineers space saving capabilities in applications and industries that have long sought the use of our technology," states Jamie Madison, Smalley's Product Engineering Manager.

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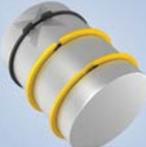
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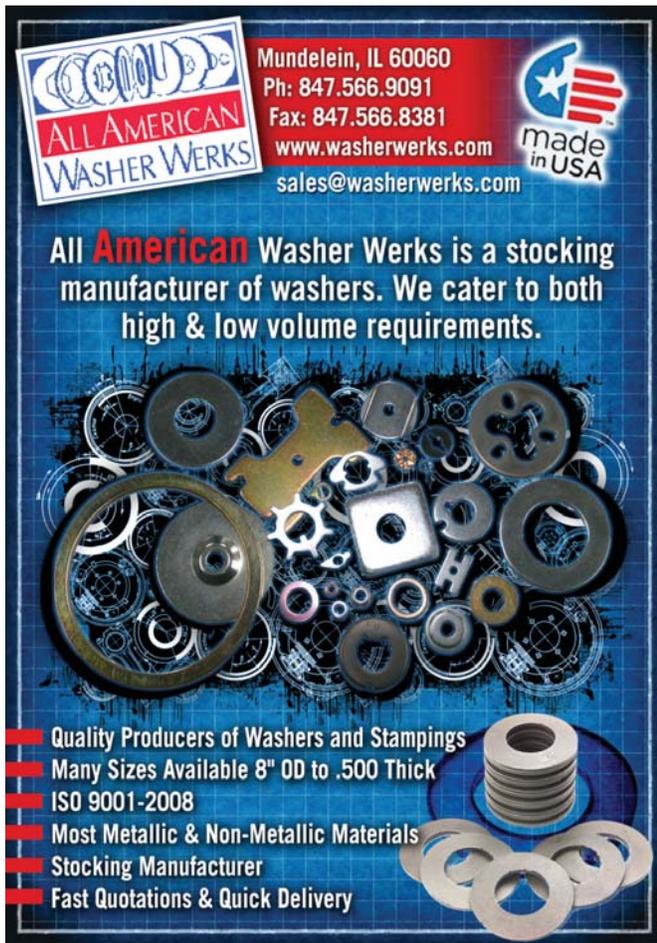
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DISTRIBUTOR NEWS

Continental Midland Group (CMG) announces the opening of a new Sales & Application Engineering Center In Southfield MI and new branding effort for the company

CMG is pleased to announce the opening of a new Sales and Application Engineering Center located in Southfield MI. The new engineering application center will include onsite application engineers, lean product assembly experts, and fully stocked samples for testing and application development. Phil Johnson – President and CEO states “The expansion of our business into this application engineering center will help improve our speed to market with safety and application engineered products. We are excited to partner with our customers and local Universities on products and services that provide total enterprise savings.”



CMG also announces their rebranding effort. The rebranding of the company is a very important step in communicating our new direction to our employees, customers, and supply partners. Our rebranding effort includes a new logo. The new logo will help our customers & partners recognize CMG as a company with a long standing history in safety, critical fastener products and application solutions. We will continue to leverage our 100+ year history, proud heritage, strong brands and application engineering solutions. The new logo is the first step in communicating our direction to be a leader in Safety & Critical Fasteners focused on the Automotive, Commercial Vehicle and Industrial Markets.

For more information contact Continental Midland Group at 4000 S. Western Avenue, Park Forest, IL 60466. Tel: 708-747-1200, Fax: 708-747-9373, email: sales@contmid.com or visit them online at www.contmid.com.

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ROBERT FOOTLIK OSHA IS STILL HERE *from page 28*

If a lost time accident, major injury/disaster, fatality or disgruntled employee is in the picture, however, you can count on the Inspectors descending en masse. Any incident that hits the media will inevitably trigger an inspection, review and citations. Even the smallest facility is not immune. Then again the same thing holds true for the legions of Personal Injury Attorneys. Anything happens they too will be knocking on the door...with subpoenas.

Looking at this objectively there are some conclusions that can be drawn.

The law was designed to serve a useful purpose, but has become overreaching in power and scope.

A historically unparalleled awareness of health and safety issues has been created, for better or worse.

It has created more Washington and State bureaucracies with National employment of over 100,000 inspectors, clerks and managers.

Employers and employees are far more aware of safety and health issues on an individual and company wide basis.

It certainly has created opportunities for consultants, seminars, University degrees and lawyers.

The compliance and documentation requirements cost billions of dollars a year without adding materially to the Gross National Product.

Fear and awareness of OSHA has been the impetus behind many improvements made without any regard to actual benefits.

Despite these accomplishments the real question remains: Have the standards and enforcement accomplished the goals and objectives embodied in the initial promise made to the American People by Congress? In addition one probably should ask if the increased cost of doing business has indeed generated the level of protection originally was conceived, or would industry and litigation have brought us to the same point.

Government compliance with OSHA meanwhile has been relatively inept. Workers at State and Federal facilities have been exempt since the beginning days and remain outside of these protections. In many cases this is because of the nature of the tasks (military personnel, Astronauts, fire fighters, etc.), but even clerical workers are still working in facilities that would not meet industry standards. Congress has yet to adequately address this and is unlikely to ever get around to taking this seriously. This of course is of little consolation if you have been

inspected and cited.

At this point it's abundantly clear that complying with OSHA is not really possible, the Act has continually failed to live up to the promises and IT'S STILL THE LAW OF THE LAND. Where does this leave the typical Fastener Distributor?

OSHA And The Fastener Distributor

There are some steps that can be taken to meet common sense standards for the protection of employees and visitors and simultaneously establish "An Aura of Compliance." Most of this can be accomplished simply by becoming aware of hazards and dangers before catastrophes happen and it begins, as usual, with top management developing an awareness of the most likely problems and developing a program to identify areas for focus and improvement. Even something as simple as changing a burned out light bulb can be the impetus for enhancing health and safety.

Go back to the Top 10 List above. These are the areas that OSHA has said for over 40 years that are violated most often. That makes it a great place to start your own, more effective program for improvement...in your context.

Let's take a fairly simple example, Section 1910.178 "Powered Industrial Equipment." This started out with some minimal requirements that are now taken as normal on new forklifts. Overhead guards and load backrests have been standard for over 45 years. One cannot justify a new vehicle on this basis but some of the newest safety and monitoring systems might push the decision process for a new vehicle. Electronic "Nannies" that control speed, turn off the lift before lifting becomes dangerous and monitor/report bad driving practices are all great ideas that can save lives and property. The fact that these are often coupled with mechanical system monitors to optimize productivity and preventative maintenance adds real payback.

This section also spells out requirements for licensing and training operators and this should be the impetus for developing programs that insure that only qualified operators are using the equipment in a safe manner. OSHA specifies that this must be done in the context of the operation. Just because a driver knows how to handle a sit down rider, counterbalanced forklift does not automatically guarantee that they know what to do with a stand up rider, electric reach truck. Both hiring and training should reflect this.

DISTRIBUTOR NEWS

The **Industrial Fasteners Institute (IFI)** has added two new search tools for finding crucial fastener data quicker and easier.

In the past, to locate only the thread sizes for a part or only the material strength of a given fastener, the IFI Technology Connection user had to use the product search tool to look up an entire product description to find the desired information.

Now the Connection has independent search tools for finding Fastener Thread Size information.



Fastener Thread Data

Interior and exterior thread data.

THREAD TYPE	STANDARD	
Screw/Bolt Thread	Inch	Metric
Nut Thread	Inch	Metric

In addition, users are now able to specifically search for Fastener Strength Requirements.



Fastener Strength Requirements

Material data for bolts.

FASTENER TYPE	STANDARD	
Screw/Bolt	Inch	Metric

These more targeted searches can make finding data for inspections or designing specials, and providing very specific customer answers quicker and easier. Finding fastener technical data using the IFI Technology Connection is much faster than finding the same data in the hard cover standards book plus the data can be printed out as a pdf file with one click.

Existing subscribers can try these new search tools immediately.

For those who are not yet subscribers, a **FREE 60-day trial** is available by going to the Products page of the IFI web site at www.indfast.org.

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LORRI HUNT THREE THINGS TO KNOW ABOUT THE ISO 9001:2015 REVISION *from page 30*

However, the lack of specific documented information requirements has raised concerns by organizations for how they will be audited. In reality, organizations involved in previous ISO 9001 transitions will tell you that in most cases the changes in documented procedures did not directly relate to a reduction in the number of documented procedures.

This is no different from current practices. There are only six documented procedure requirements in the current standard and yet third party auditors are able to audit requirements where there is no required documented procedure such as competence or purchasing. In this case, it will be business as usual.

Organizations are also concerned where there are not a specific requirements to maintain or retain documented information. This concern is not new. In fact, since the 2000 version, the Auditing Practices Group, a group of ad-hoc experts representing ISO TC176 and the International Accreditation Forum (IAF), have drafted papers (http://www.iaf.nu/articles/ISO_9001_Auditing_Practices_Group/37) that illustrate different auditing methods,

including a quality management system with minimal documented information. It requires the auditor to interview the organization and confirm requirement implementation through additional employee interviews.

While organizations will still be responsible for demonstrating conformance, don't let the auditability factor drive your organization to unnecessary documentation.

Organizations Have Until September 2018 To Transition.

Organizations will have until September 2018 to transition to the revised standard. Each organization will need to consider the best timing to complete the transition. Organizations should conduct their certification body to determine needed steps and plan their transition to avoid any scheduling issues. The key to a successful ISO 9001:2015 transition will be to understand the requirements, conduct a gap analysis, and not let concerns with auditability and documented information drive bureaucracy into your quality management system. 

LORRI HUNT

WORDSEARCH PUZZLE

Z	I	T	H	E	R	K	V	I	N	T	V
D	D	D	O	N	A	I	P	M	R	U	I
F	F	S	C	G	O	H	D	O	C	B	O
G	I	M	A	L	O	N	M	R	E	A	L
D	G	F	I	X	B	B	B	G	L	M	T
S	H	N	E	D	O	S	H	A	G	R	B
R	A	C	X	N	E	P	C	N	U	X	A
A	L	V	E	X	G	C	H	M	B	C	N
T	O	L	O	C	C	I	P	O	Q	V	J
I	I	<u>F</u>	<u>L</u>	<u>U</u>	<u>T</u>	<u>E</u>	X	S	N	B	O
U	V	E	E	Q	T	H	A	R	P	E	C
G	C	E	L	L	O	F	I	D	D	L	E

MUSICAL INSTRUMENTS

In the grid opposite there are twenty answers that fit the category named above. Circle each answer that you find and list it in the space provided below. An example is given to get you started.

- | | | | |
|-----|--------------------|-----|-------|
| 1. | FLUTE _____ | 11. | _____ |
| 2. | _____ | 12. | _____ |
| 3. | _____ | 13. | _____ |
| 4. | _____ | 14. | _____ |
| 5. | _____ | 15. | _____ |
| 6. | _____ | 16. | _____ |
| 7. | _____ | 17. | _____ |
| 8. | _____ | 18. | _____ |
| 9. | _____ | 19. | _____ |
| 10. | _____ | 20. | _____ |

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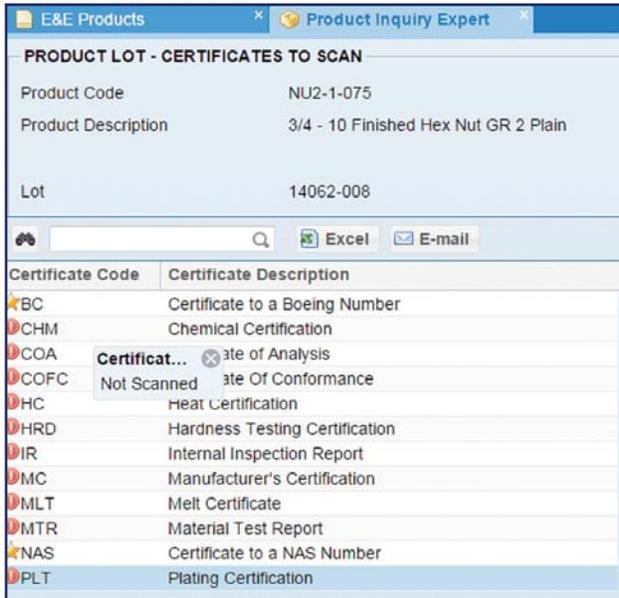
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COMPUTER INSIGHTS INC. AEROSPACE DISTRIBUTORS HAVE UNIQUE NEEDS from page 32

The list of potential required certifications seems endless. Here are a few typical certifications that are required:



Each Part Is Unique

Each part has a unique set of certifications. When purchased, the distributor must specify certification requirements to be provided by the vendor. When the parts are received they are quality checked and the certifications are attached to the parts.

When the distributor sells the parts, they will be required by different customers, to provide parts that comply with each one's specifications. The distributor is rarely allowed to provide an equivalent part, it normally must match exactly. Having the part is not enough to make the sale. As the saying goes, no job is complete until the paperwork is done.

Information Is Critical

With thousands of parts and many variations in compatibility for each part, the aerospace distributor must use the latest technology to manage their complex requirements.

In The Business Edge™ we provide access to all the necessary information in a single screen. This enables our aerospace clients to provide world class service effortlessly.

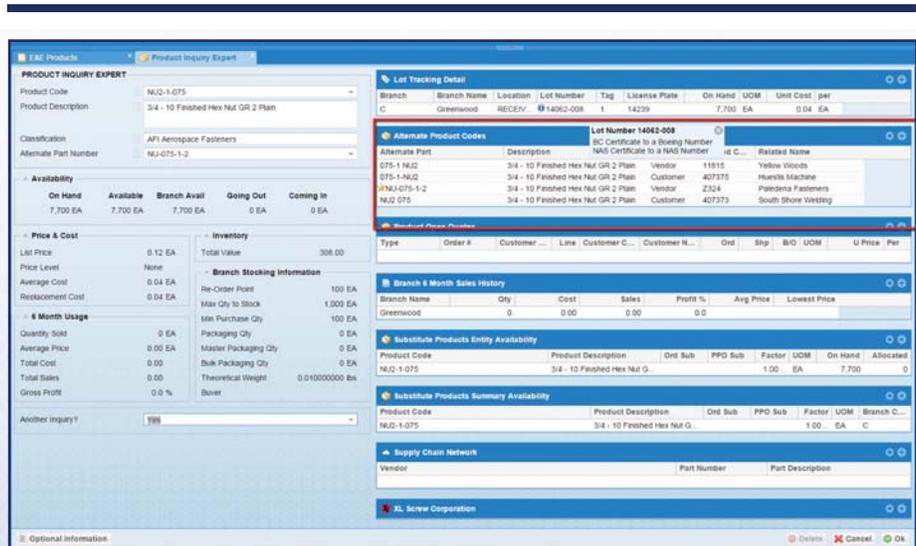
It's Not Just Aerospace

It's not just aerospace - many industries demand complex certifications from fastener suppliers. The automotive industry requires PPAP (Production Part Approval Process). The nuclear industry requires NQA-1. Oil and Gas requires NACE certification. Aerospace and military want QSLD and QSLM. The Navy requires SUBSAFE LEVEL 1 and MIL-DTL-1222J. And on and on. Each of these comes with non-negotiable requirements for test reports and certifications that can be extremely laborious to manage without an ERP integrated Quality Management System.

There is nothing more frustrating than doing all the work to make the sale and ship the part only to have it hung up at the customer's receiving inspection over incomplete or incorrect certifications, or a lot traceability issue. Or worse, running into an after installation event that requires the retrieval of a test report or certification that cannot be immediately provided.

Certification Management

Document management, lot control, traceability, labeling, part number crossing, inventory control and qualified sourcing are all essential elements of providing the service that aerospace fastener user's demand. It can take hours to manually assemble and inspect the documentation package that accompanies one part number. For many suppliers this is the main, or only quality check the part receives. It can take more time than physically inspecting the part. The only efficient way to do this is with an integrated QMS. The Business Edge™ provides this capability like no other system in the distribution software market.



Celebrating 20 years of Service to the Fastener Industry - THANK YOU for your support!

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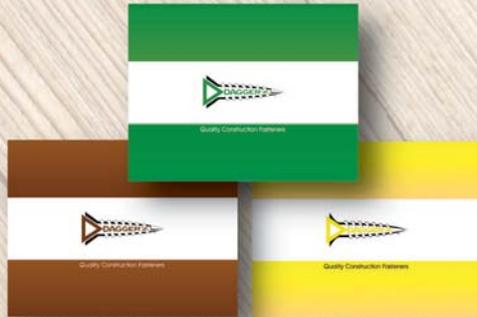


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WOMEN IN THE FASTENER INDUSTRY...UNITE!

What better time than now to join Women in the Fastener Industry (WIFI). Our numbers continue to grow as we provide our members with unique opportunities for networking and career advancement.

WIFI applications are now being accepted for the Edith Cameron Scholarship which covers your travel expenses and entrance fee for the 2016 National Industrial Fastener & Mill Supply Expo in Las Vegas where WIFI will hold its annual event. The Anne Bisgyer Wolz Scholarship covers tuition and travel to the Fastener Training Institute classes (and webinars) where recipients can boost their knowledge about fastener applications and more. Both WIFI scholarships enable our members to connect with others in the industry and advance their careers. Learn more and download applications at fastenerwomen.com.



Also this month, we unveil WIFI@Work – a new feature that highlights WIFI members at work. This is a great opportunity to show off our members, highlight their business acumen and offer a glimpse into the workplace of fellow members. Visit fastenerwomen.com for more information.

Viva Mexico! WIFI travels to Mexico City June 1-2, for Fastener Fair Mexico, the leading Latin American exhibition in the fastener industry. Rosa Hearn and Nora Hultz, both from Brighton Best International, will be representing WIFI at the event. Be sure to stop by booth L34 for membership and scholarship applications – or just to say hola!

WIFI is gearing up for another stellar event in Vegas this fall. Join a WIFI committee today and get involved in our biggest event of the year. Email WifiAssoc@yahoo.com to volunteer or sponsor WIFI Vegas 2016 today! 

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DISTRIBUTOR NEWS

Cable Tie Express a leading supplier of superior quality cable ties and associated products since 1995, is proud to announce that investment firm Roman Capital has made an equity investment in its business. This investment will allow Cable Tie Express to offer even greater service to their customers by expanding both through additional warehouse facilities in the U.S. and with a broader variety of products. The same team remains in place at Cable Tie Express to continue to service customers, led by President Char Cooper, Vice President Tony Van Hoozer, and General Manager Doug Andrews, with their combined 57 years of experience.

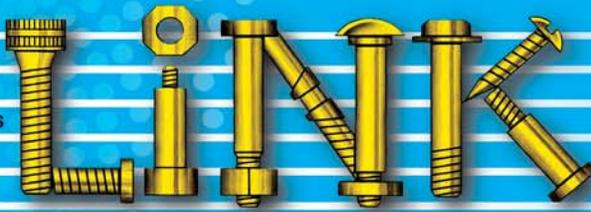
"We have devoted the past 20 years to creating a business that puts our customers first and promotes our focus on 'tying service to quality.' We wanted to be able to offer even more to them in the future," said Cable Tie Express President Char Cooper.

"With this equity investment by Roman Capital, we are excited about the opening of a West Coast warehouse in February 2016, adding to our current warehouse locations in Indianapolis, Dallas, and Orlando, and also increasing the products that we carry to meet additional needs of our customers. We are looking forward to these expanding capabilities and to further strategic growth opportunities in the future, including through acquisitions."

Cable Tie Express offers cable ties and associated products such as heat shrink tubing, mounting bases, wire connectors, and cable clamps. Cable Tie Express develops solid and mutually beneficial customer relationships, offering solutions and alternatives; consistent delivery and same-day order fulfillment without backorders; fast response time for quotes and orders; competitive pricing; cross referencing of parts; custom packaging and labeling; availability of prints, specifications, and samples; and readily available information provided by a qualified and professional sales team. Cable Tie Express only carries top quality products, which it sources through long-term relationships with high quality, dependable manufacturers and independently confirms via its state-of-the-art tensile tester and moisture tester. The company also provides product training in the form of seminars and marketing tools. Always focused on the highest standards of excellence and "tying service to quality," the Cable Tie Express team is committed to serving every customer with kindness, courtesy, friendliness, and integrity.

For further information, to request a quote or samples, or to become part of our growing distributor customer base, contact the sales professionals at Cable Tie Express, Inc., 15470 Endeavor Drive, Noblesville, IN 46060. Tel: 1-888-603-1233, Fax: 1-800-395-1233, Email: sales@cabletieexpress.com, visit us online at www.cabletieexpress.com or find us on Facebook.

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Salim Brahimi's research initiative which began in 2006 has evolved into a center of excellence on fasteners materials and hydrogen embrittlement that is recognized around the world.

Notable Contributions To Industry

Salim Brahimi has:

- Authored the first ASTM standard that deals specifically with electrodeposited coatings on fasteners; ASTM F1941 and F1941M, Specification for the Electrodeposited Coating of Threaded Fasteners,
- Served as chairman of an ASTM F16.93 task group of industry experts on hydrogen embrittlement. Made a substantial contribution to the direction and adoption of ASTM F1940, Process Control Verification to Prevent Hydrogen Embrittlement in Plated or Coated Fasteners,

which is a watershed standard for the prevention of internal hydrogen embrittlement in fasteners,

- Conducted research that has opened the door to the application of metallic coatings on high strength A490 structural bolts, notably on the new San Francisco-Oakland Bay Bridge.
- Developed a globally recognized center of expertise on fasteners hydrogen embrittlement at McGill University, in Montreal, Canada.

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FASTENER INDUSTRY TECHNOLOGY UPDATE FROM THE IFI - AS OF FEBRUARY 2016

Standards Organizations Activities

[1] Standards published recently

- **ASTM F1554** Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength has been revised to F1554-15.
- **ASTM A320/A320M** Standard Specification for Alloy Steel and Stainless Steel Bolting for Low-Temperature Service has been revised to A320/A320M-15a.
- **ASTM F1941/F1941M** Standard Specification for Electrodeposited Coatings on Mechanical Fasteners, Inch and Metric has been revised to ASTM F1941/F1941M-15.
- **ASTM A370** Standard Test Methods and Definitions for Mechanical Testing of Steel Products has been revised to A370-15.
- **ASME B18.2.2** Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series) has been revised to ASME B18.2.2-2015
- **ASME B18.24** Fastener part identification numbering system has been revised to ASME B18.2.2-2015

- **ISO 2320** Fasteners, Prevailing torque steel nuts – Functional properties has been revised to ISO 2320:2015.
- **ASTM F3125** New structural bolt standard – recent article on the publication of this standard is available at on the ASTM website www.astm.org/standardization-news/spotlight/aligned-and-combined-ma15.html

[2] Standards that have passed committee balloting and have begun the publication process:

- **SAE J1237** Metric Thread Rolling Screws. At the meeting in September 2015 the negatives from the previous ballot were resolved and a final ballot was approved for processing in early 2016.
- **ASME B18.16.6** Nylon Insert Locknuts (Inch Series). The B18.16 sub-committee made a revision to lower the proof load values of thin insert lock nut to 45% of the regular height nuts and to correct the errors in the NTM series of nut heights. The last revision was balloted in October, and was approved for publication in early 2016.

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NORTH COAST FASTENER ASSOCIATION DUNHAM PRODUCTS OPEN HOUSE - JANUARY 28, 2016



JIM TRUESDELL COMPANIES MUST TREAD CAUTIOUSLY IN LIMITING EMPLOYEE SPEECH *from page 44*

It seems that the Board, in issuing these guidelines, is seeking to insure that employees have the benefit of concerted action and raising awareness of perceived inequities in wages and working conditions even if there is no bad management intent and the circumstances giving rise to unequal pay are strictly the result of market circumstances and conditions.

NLRB General Counsel Robert Griffin minces no words in his memo where he calls upon employers to have handbook policies that include clear and specific language, precise examples, and explanatory context so that employees will not reasonably construe otherwise lawful activity as a limit on their Section 7 rights.

For example, employers are cautioned against using overly broad language that creates an impression in employees that they cannot discuss wages, hours, and other terms and conditions of employment. If it is a limitation of free speech designed to protect trade secrets or business information then the handbook policies should be specific enough to convey that such restrictions are in place without causing fearful employees to stop talking about their jobs with their peers. Vague prohibitions against being disrespectful or “rude” to management might best be replaced by narrower restrictions preventing disclosure of such things as trade secrets, processes or customer information. By being specific, it removes the chance that broad language could scare off employees from utilizing their Section 7 rights.

Another area addressed is policies limiting employee discussions with the media. Such policies must apparently be limited to prohibiting workers from purporting to speak on behalf of the employer when not authorized. Nothing in company policies should lead them to believe they cannot speak about their own individual wages, jobs, or working conditions. Employees should be instructed to say they are not authorized to speak on behalf of the employer in response to media inquiries.

As a final catch-all the memo even goes so far as to warn against using language that uses broad phrases to prohibit conduct not in the best interest of the employer

on the off chance that this could somehow discourage employees from exercising their Section 7 rights.

In recent years, during both Republican or Democratic administrations, the National Labor Relations Board has been very politicized, with its appointed membership reflecting the labor law viewpoints of the current U.S. president. This is probably because some of the biggest contributors and campaign activists on both sides are vested strongly in particular viewpoints of labor law.

Labor unions allied with Democrats and business groups backing Republicans often call in their influence to have activist lawyers and academics reflecting their perspective placed on the Board. This results in some pretty wild swings in the stance of the NLRB on hot issues. Thus it is not surprising that, under the Obama Administration, we have this memorandum which is so strident in protecting the kinds of speech in which employees might engage as they move toward unionization and organization. It seems like a very one-sided pro-employee/labor union policy. Therefore we could see many of these suggested guidelines change if there is a different party in the White House next year.

A more conservative, pro-business president might well appoint a Board majority willing to give an employer more control over what employees may say or what information they exchange with each other about their jobs.

Whatever the legal environment, it is clear that today's millennial worker is unlikely to accept limitations on the conversations he or she can have with co-workers on topics like wages, benefits or working conditions. Attempting to control such talk is not only a bad idea, but it is probably impossible anyway.

The best strategy is to have defensible and explainable compensation programs which are unlikely to arouse anger and hurt moral. Such compensations systems should be as patently fair to the observer as can possible be.

If an employer who can do that should have nothing to fear from such discussions going on within the office or warehouse. 

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MARTY NOLAN PRESERVING THE FASTENER HALL OF FAME WALKWAY from page 34

The Hall of Fame pavers are being safely stored until a suitable site can be found for them or plan is put in place on what will happen next.

We contacted the National Industrial Fastener & Mill Supply Expo operators to inform them that the Hall of Fame had been removed from its original location and received this response from Karalynn Sprouse of Emerald Expositions:

"We just learned yesterday of this news and we are thrilled he was able to 'save the bricks'we would like to ask the listeners (of Fully Threaded Radio) to suggest ideas for the bricks. Emerald is listening and we will continue to find ways to commemorate these innovative people in our industry."

For an audio account of the "Saving of the Hall of Fame" adventure, please visit www.fullythreaded.com and listen to Episode #102. 



HALL OF FAME PAVERS CLEANED AND IN STORAGE

MARTY NOLAN

DISTRIBUTOR NEWS

Cable Tie Express Cable Tie Express, a leading supplier of superior quality cable ties and associated products since 1995, announces two new warehouses which will enhance customer service on East and West Coasts through faster product delivery: Connecticut, opening in January, and California, opening in February. Both will facilitate same-day pickup or next-day delivery for customers in their areas; in CT, the New England and Mid-Atlantic regions, and in CA, the West Coast.

"We are committed to providing same-day order fulfillment, and already have warehouses in Orlando, Indianapolis, and Dallas. With the new East and West Coast warehouses, we can offer customers in those regions the same fast service," said Cable Tie Express President Char Cooper.

"As we continue to promote our brand 'tying service to quality' throughout the U.S., the opening of two new warehouse and shipping locations

enables same-day pickup by customers or receipt of product within 1-2 days from time of purchase order, nearly anywhere in the country."

Cable Tie Express offers cable ties and associated products such as heat shrink tubing, mounting bases, wire connectors, and cable clamps.

Always focused on the highest standards of excellence and "tying service to quality," the Cable Tie Express team is committed to serving every customer with kindness, courtesy, friendliness, and integrity.

For further information, to request a quote or samples, or to become part of our growing distributor customer base, contact the sales professionals at Cable Tie Express, Inc., 15470 Endeavor Drive, Noblesville, IN 46060. Tel: 1-888-603-1233, Fax: 1-800-395-1233, Email: sales@cabletieexpress.com, visit us online at www.cabletieexpress.com or find us on Facebook.

DISTRIBUTOR NEWS

ISSCO, INC., a fastener distributor located near Kansas City, Missouri, is pleased to announce that its Quality Management System (QMS) has earned the ISO 9001:2008 certificate of certification from Orion Registrar, Inc., based on standards established by the International Standards Organization (ISO).

BTM Manufacturing, which is owned and operated by ISSCO, INC., also earned the ISO 9001:2008 certificate of certification from Orion Registrar, Inc.

BTM Manufacturing specializes in U-bolts, anchor bolts and custom bent wire products. ISSCO, INC., recently celebrated forty years in business as one of the mid-west's largest fastener distributors. Located just 25 miles from downtown Kansas City, they continue to service five states out of their 55,000 square foot warehouse. BTM Manufacturing is a nationwide manufacturer of U-bolt, anchor bolts and custom fastener products from their 100,000 square foot manufacturing plant in Kansas City, Missouri.

For more information, contact ISSCO, Inc. at 1310 SE Hamblen Road, Lee's Summit, MO 64081. Tel: 816-525-8889 or visit them online at www.isscoinc.com.

BTM Manufacturing can be reached at 15403 Andrews Road, Kansas City, MO 64147. Tel: 1-800-369-2658, email: sales@btm-mfg.com or you can visit them online at www.btm-mfg.com.



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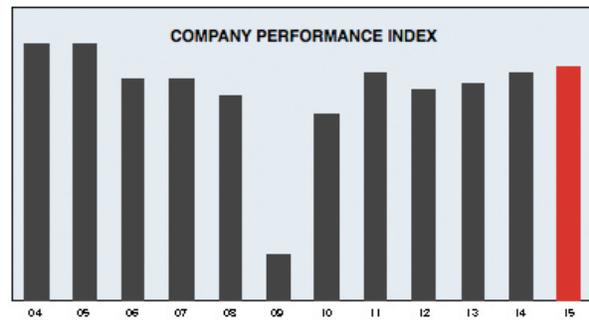
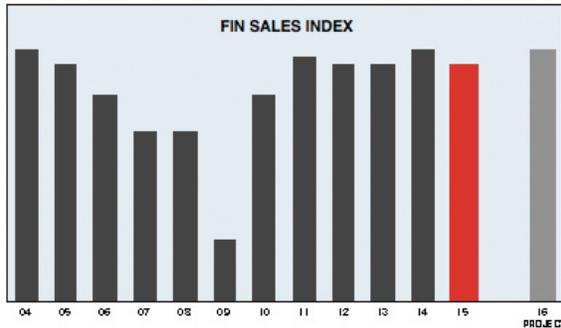
DISTRIBUTOR NEWS

United Fasteners & Hardware Inc has now stocking cage nuts Inch series zinc clear plated in our FL branch.

Along with cage nuts, we have full stocking line of Self clinching fasteners including clinch nuts, clinching studs and broaching fasteners in steel or stainless steel.

Coming in the 3rd quarter 2016 we will be stocking inch series Serrated Flange nuts, Gr 5 and Gr 2 hex nut, nylon Insert locknuts and Gr 5 Head Cap screw Zinc Clear plated.

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.



Comments On The Fastener Industry

"Incredible activity in M&A."

"We are headed toward an industry that has less and less competition."

"Manufacturers still don't understand the supply chain and how to go to market or using distribution effectively."

"They haven't replaced us ... yet."

"Looks like a slow start to 2016, but we should see an upswing by 3rd quarter."

"Very competitive."

"Starting to see slowdown in various industries at the

end of 2015 and beginning of 2016 - Not sure what 2016 will be!"

"We serve U.S. manufacturing. Hopefully, we will see continued growth in the manufacturing sector."

"We need more networking opportunities, training specific to fastener sales, procurement, quality and engineering."

"Nice to work with real people making real products. We aren't Hollywood or real estate tycoons or other glamour industries. We are real."

"No regrets on getting into a fastener career." 

GLOBALFASTENERNEWS.COM

ANTHONY DI MAIO SELECTING THE CORRECT BLIND RIVET from page 52

[3] Blind Rivet Size (Diameter)

The diameter of the blind rivet is selected in relationship to the tensile and shear values that you want for the application. The blind rivet manufacturer lists the tensile and shear values of all the different diameters they produce and all the alloys they produce. Blind rivets are produced having the following diameters, 3/32, 1/8, 5/32, 3/16 & 1/4.

So far we have selected tensile and shear values, blind rivet alloys and blind rivet diameters that we want for our application.

[4] Blind Rivet Length

Our next step is, which blind rivet body length we need for our application. Blind rivet body length is determined by the total thickness of the components in our blind rivet application. Example: If the total thickness of the components in our blind rivet application is .250 we will need a blind rivet that has a maximum grip range of .250. This blind rivet will have a "4" as the last number in the

"Rivet No."

Example: If you are going to use a blind rivet that has a 1/8 diameter, the first number in the "Rivet No." will be a "4."

This first number has a base of 1/32, therefore, $4 \times 1/32 = 1/8$ and the second number in the "Rivet No." Will be a "4" but this number has a base of 1/16, therefore $4 \times 1/16 = 1/4$.

Your blind rivet "Rivet No." Will be a 44 size blind rivet, which is 1/8 diameter and a maximum grip of 1/4.

[5] Head Configuration

Blind rivets are produced having the following head configurations Dome Head, Countersunk and Large Flange head types. Dome Head is the most popular. Countersunk heads are used when the user desires a flat smooth surface when the blind rivets are set. Large Flange are used when riveting soft material such as leather or wood or where the blind rivet setting hole size on the flange side of the blind rivet application is oversized. 



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With networked fastener operations in California and North Carolina to serve you, we're there when you need us regardless of where you placed your plastic fastener or plastic component order.

E&T Fasteners offers a complete line of engineered molded plastic fasteners and machined metal fasteners.

E&T can machine precision custom plastics fasteners and metal components to your specifications. Don't have a drawing? In most cases we can create a drawing from your sample. Every person on our engineering staff is committed to delivering you with the highest quality metal or plastic fastener and component product in record time.



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RICHARD KOVACH has earned a reputation for making his employees feel valued and treating them like family. They work hard every day to support his vision. He has not only built a successful business, but also provided employment opportunities for the local community and beyond.



Dan Reger, a 30-year veteran and Forge Shop Foreman, sums up life at Ken Forging best - “At Ken Forging, I can go straight to The Man whose door is always open. Rich listens. He always asks first what I think and then what I would do. He evaluates. Often we work together in the Forge area to figure out a problem with a machine. But that’s Rich’s approach to every area in the plant. I feel that I am a valued employee and also respected as a man. I am looking forward to my 31st year here.”



His vision - almost a lifetime in the making and 46 years in practice, is now a reality. From that dream in a garage, Rich Kovach has striven for perfection, inspired those around him and won loyalty from all who deal with him. *Staying true to his vision, he has forged his own reality.*

THE END



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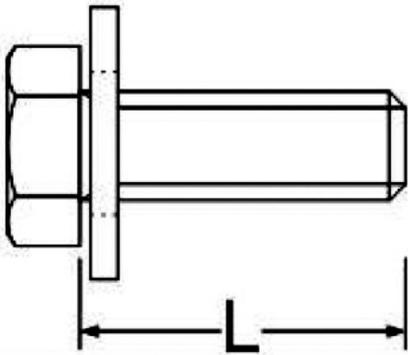
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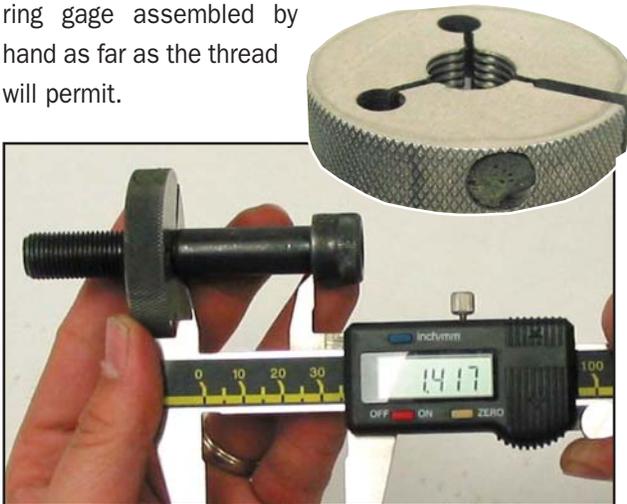
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LARRY BOROWSKI MEASURING FASTENER LENGTHS *from page 58*

Sems screws are assemblies with independent components primarily being screw and washer(s). These are to be treated as independent parts when it comes to inspection. ASME B18.13 on Sems screws (captive washers) states; for each style the screw component shall conform to its particular specifications. In other words length is measured without influence of the captive washer.



While on the subject of fastener length measurements, grip length is another common criterion for inspection. Grip length is defined in several of the ASME B18 standards as: The distance measured parallel to the axis of a bolt or screw from the under head bearing surface to the face of a non-counterbored, non-countersunk, standard Go thread ring gage assembled by hand as far as the thread will permit.



Now that we know how fastener lengths are defined, what is the best way to actually take the measurements? Fastener length tolerances are fairly liberal from a dozen or so thousandths of an inch up to a couple hundred thousandths of an inch depending on the size and type. One way these measurements can be done is optically

on an optical comparator or tool makers microscope, but this can be time consuming when there are large quantities and different sizes to check. Caliper length measurements are probably the most commonly used method, because it is relatively quick, however it is often difficult to get good repeatability. There are also several specialty type Length gages that will help increase speed and repeatability.



When looking at prints or standards, take note on which length dimensions are reference dimensions and which length dimensions are considered inspection criteria with associated tolerances. Reference dimensions are either calculated or approximate numbers, and are not required to be inspected, nor are they to be used for pass/fail results.

The important part is that you understand the type of screw you have, know how the length is defined, and have a gage or equipment that can make that measurement.

How you actually obtain that measurement depends on what equipment is accessible, its ability to do the job, and whether you need something better based on your company's quality program. For instance, if all you have is a tape measure, you might find it difficult to get a good length measurement on a small socket head cap screw, however it may work great for a 2" diameter, 24" long Hex bolt. If you are measuring a bunch of small parts or ones with a tighter length tolerance, you may opt for a fastener length gage to get the job done quickly and accurately. Do your homework and choose the best tool for the job at hand. 

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PWFA / NFDA MORE THAN 200 FASTENER PROFESSIONALS PARTICIPATED IN THE 2016 JOINT CONFERENCE *from page 60*

How the Intersection of Technology and Manufacturing is Driving Innovation and Creating New Challenges

Today's manufacturers are also technology companies. Transformative technology trends, from 3-D printing to the internet, are changing the way these firms and their customers do business. And, this change is impacting large OEMs and their entire supply chain from design to delivery.

Cybersecurity, intellectual property protection, data privacy, and advancements in cloud computing technology have triggered policy debates in Washington that no longer just impact Silicon Valley. At this session Brian Raymond from the National Association of Manufacturers (NAM) talked about how the decisions made in Washington are impacting the adoption of technology throughout the manufacturing supply chain.

Value-Added Technical Services: The Illustrated Fastener

The Fastener Training Institute offered a pre-conference workshop on using computer generated graphics, animations, drawings and models of your fasteners and assembly solutions to distinguish your company and your

products from every other fastener supplier. The program was taught by Carmen Vertullo (Carver Consulting).

Conference Networking and Fun

Pre-conference social events included golf at Riverwalk Golf Club and a whale watching excursion.

The conference concluded with a lunch reception at the home of Suzanne Dukes (Hayes Bolt & Supply).

Save the Date

The next NFDA meeting is the Annual Meeting and Executive Sales Planning Sessions, June 27-28, at The Galt House Hotel, in Louisville, Kentucky.

The next Pac-West meeting is the Fall Conference, September 29-October 1, at the Embassy Suites Downtown, Portland, Oregon.

Both associations will hold another joint conference and tabletop show, March 15-17, 2017 at the Westin Hotel, Long Beach, California.

Information

For more information about NFDA or Pac-West and their activities, visit nfda-fastener.org or pac-west.org. 

The main function of a trademark is to enable consumers to identify a product or service of a particular company so as to distinguish it from other identical or similar products and services provided by competitors.

You know what it's like, walking down the aisles of a grocery store. Somehow you find the product you want out of the hundreds on the shelf. That's the power of a trademark.

By enabling companies to differentiate themselves and their products from those of the competition, trademarks play a powerful role in the branding and marketing strategies of companies. The image and reputation of a company create trust which is the basis for establishing a loyal clientele and enhancing a company's goodwill. Consumers often develop an emotional attachment to certain trademarks based on a set of desired qualities or features embodied in the products or services bearing such marks.

The Value Of Trademarks

A carefully selected and nurtured trademark is a valuable business asset for most companies. For some, it may be the most valuable asset they own. Estimates of the value of some of the world's most famous trademarks such as Coca-Cola or IBM exceed 70 billion each. This is because consumers value trademarks, their reputation, their image and a set of desired qualities they associate with the mark, and are willing to buy a product bearing a trademark that they recognize and which meets their expectations. Therefore, the very ownership of a trademark with a good image and reputation provides a company with a competitive edge.

While most businesses realize the importance of using trademarks to differentiate their products or services from those of their competitors, not all realize the importance of protecting them through registration.

Registration, under relevant U.S. trademark law, gives your **company the exclusive right to prevent others from marketing identical or similar products or services under the same or a confusingly similar mark.** Without trademark

registration, your investments in marketing may become wasteful as rival companies may use the same or a confusingly similar trademark for identical or similar products or services. If a competitor adopts a similar or identical trademark, customers could be misled into buying the competitor's product or service thinking it emanates from your company. This could not only decrease your company's profits and confuse your customers, but may also damage the reputation and image of your company, particularly if the rival product or service is of inferior quality.

Receiving a trademark cease and desist letter or infringement notice can be an unsettling event. There are many circumstances under which you may receive one, but they all have one common thread – if the allegations in the letter are true, they can be devastating for a business. Securing ownership of intellectual property serves a prima-facie evidence of the validity and exclusivity of the mark for the goods and services listed in the registration and serves as defense to a conflict matter.

Given the value of trademarks and the importance that a trademark may have in determining the success of a business in the marketplace, it is critical to make sure that it is registered in the relevant markets. In addition, a **registered trademark may be licensed to other companies**, thus providing an additional source of revenue for your company or may be the basis for a franchising agreement.

How Can Your Company Protect Its Trademarks And Service Marks?

Trademark protection can be obtained through registration and, in some cases through use. Even where trademarks can be protected through use, you are well advised to register the trademark by filing the appropriate application. Registering a trademark will provide stronger protection, particularly in case of conflict with an identical or confusingly similar mark.

Yes, Mr. Hogg had real naming and marketing skills. **STAR SOAP** is still being sold almost 150 years later...

DISTRIBUTOR NEWS

Prospect Fastener, has launched an ecommerce website at prospectfastener.com to give customers easier, faster service and delivery of the items they need.

"It is our goal to get products to our customers how they want them and when they want them," said Rich Pratt, Jr., V.P. Quality Assurance for Prospect Fastener. "We have promised our customers a transparent pipeline of value. This is it."

"The new ecommerce site provides direct access to product and information much more efficiently. Please visit the ecommerce site at www.prospectfastener.com/ecommerce.

Located in Wauconda, IL, Prospect Fastener is a Master Distributor of Value. It was founded in 1982 by Marie and Rich Pratt, Sr., and has grown into a nationally known and respected distributor of retaining rings, clips, clamps, pins, assortment kits and more. Companies from Grainger to Fastenal count on Prospect Fastener to maintain inventory and distribute value.

For more information, please contact Kati Mols at 1-800-822-6080 or visit prospectfastener.com.

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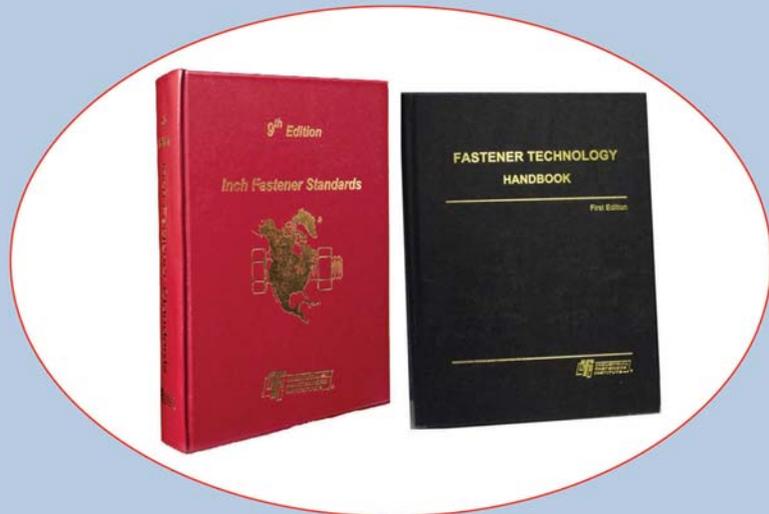
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Going Green

Additionally, they wanted to Go Green: The Business Edge™ has enabled them to get certifications from vendors electronically. These certifications are easily attached to the specific lot of parts that were received. If the vendor can't provide the certifications electronically, AFI simply scans them into The Business Edge™. Also, AFI is now able to send invoices acknowledgements, certifications, etc. by email instead of paper. The results are faster, more reliable and they are environmentally friendly.

Certificate Management

The Business Edge™ has an exclusive Certificate Management System included. This system enables AFI to require the proper documentation as part of their normal purchase order system. The certification requirement is attached to each part. It also enables them to have the system automatically attach customer and part specific certifications with the part based on criteria in the customer file. The certifications are automatically attached as part of the documents that were sent out, so if the customer loses them, AFI can replace them with the touch of a button.

Business Forms

All of the documents are sent out of The Business Edge™ (Quotations, Certificate of Compliance, Invoices,

etc.) were designed by Computer Insights to meet AFI's requirements. After the implementation, Nelson said "Our customers were all amazed, because instead of receiving a quote with a price and delivery written by hand, they got a nice/professional quote." This is not only much more efficient since they are electronic, but it also added to our image as a professional vendor.

An Eye On The Future

Nelson went on to say, "We have gained substantial efficiencies already with The Business Edge™ and we are already testing new capabilities with Computer Insights using inventory sourcing networks directly within The Business Edge™ and in the future, we plan to be connected to our customers' systems as well. We couldn't be happier."

More Information

Aircraft Fasteners International. can be reached at 13402 Beach Avenue, Marina Del Rey, CA 90292. Contact Mr. Nelson Valderrama, Vice President, by telephone at 310-821-5582, Fax 310-821-0378, eMail: nelson.valderrama@aircraftfast.com or visit them online at www.aircraftfast.com.

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GENERAL INSPECTION MANUFACTURERS MAKE AUTOMATED 3D PART INSPECTION A COMPETITIVE ADVANTAGE from page 78

"We are seeing a 10-20% improvement in overall equipment efficiency (OEE) for set up and changeover, and are making parts much faster with LaserLab," adds Pinheiro. "We are also significantly reducing first time scrap and downstream sorting while increasing production cycle time."

Because the patented laser technology accurately measures with exact repeatability every time, it greatly reduces part-to-part variability by eliminating operator error. A comprehensive, built-in thread database provides instant tolerances for each thread characteristic, and after every pass the laser beams are automatically calibrated to NIST standards to ensure accuracy.

As such, LaserLab provides real time manufacturing process control with more precise, repeatable measurements than possible manually. This allows more frequent part measurement that significantly improves product quality and reduces scrap.

According to Pinheiro, Acument Global Technologies previously used the operator's manual inspection to first determine part quality, which required about 10 minutes to check part dimensions.

"Using the 3D laser gauging system has cut our inspection time to less than 30 seconds per part, a twenty-fold time savings," says Pinheiro. "We ensure our process is performing within specifications so we're continuously manufacturing good parts."

True to the tenets of lean production and Six Sigma, the 3D laser gauging system has streamlined accurate data collection and Statistical Process Control (SPC), putting Acument Global Technologies on a virtuous cycle of better production measurement, analysis, improvement, and control.

"Instead of operators hand measuring part dimensions and writing the data on paper to enter in Excel,

LaserLab's output goes directly into Excel electronically," says Pinheiro. "This eliminates operator bias, error, as well as the production bottleneck of operators stopping to measure product, which allows us to manufacture with more continuous flow."

As Acument Global Technologies begins using LaserLab for incoming part identification and validation at distribution centers, Pinheiro expects to see further benefits. The process will verify that the correct parts are actually in the containers. It will also verify key part characteristics such as length, diameter, flats, corners and head height.

"We have found that the 3D laser gauging system (LaserLab) reduces incoming part identification and validation cycle time from 3-4 minutes to about 20 seconds," says Pinheiro. "The efficiency allows staff deployment to other areas while ensuring part quality and accuracy for our end customers."

While the company's PPAP process typically took about 90 minutes to measure several parts with manual gauges such as micrometers or calipers, LaserLab has saved about one hour per PPAP. "The efficiency has freed up about a day per month to further enhance quality control," says Pinheiro.

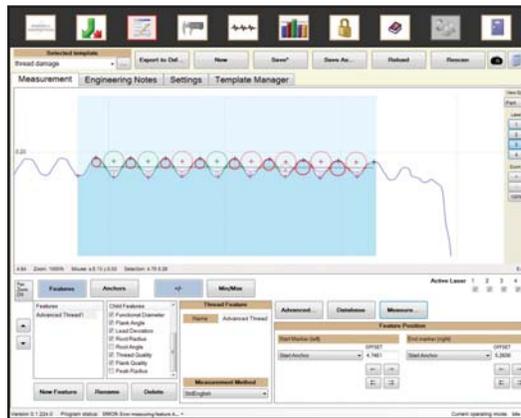
According to Pinheiro, Acument Global Technologies is also realizing very strong Earnings Before Interest and Taxes Accrued (EBITA) performance compared to last year. "This tells me that even if we are not directly measuring some the benefits of the 3D laser gauging system they are flowing to the bottom line," he says.

"Any company that manufactures parts where dimensional accuracy is crucial should look into a 3D laser gauging system," says Pinheiro. "We achieved ROI in one year on our units and are still realizing greater efficiencies." 



ABOVE: DEFECT FOUND ON PART WITH LASERLAB

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INCREASE FASTENER SALES INQUIRIES IN THE DIGITAL AGE *by Eric Dudas*

How important are sales inquiries to the typical fastener distributor? The answer would seem obvious: Sales inquiries are the life blood of any distribution enterprise.

Purchasing, warehouse, and quality teams are all critical components to successful industrial fastener distribution operations, but sales make the engine run.

Typical fastener distributors use sales staff, reps, various forms of advertising, and trade events to drive sales. More and more, distributors are expanding into the digital realm to develop new business and brand awareness. While each has its place in the mix, digital B2B marketing strategies are of particular interest as online business has gone mainstream.

According to digital marketing website Business 2 Community (www.business2community.com), “B2B marketing budgets are expected to increase, by about 5% in the coming year. But spending on digital marketing programs is projected to rise three times as fast over the next five years.”

We pay close attention to these trends at the FCH Sourcing Network (www.fastenersclearinghouse.com), because developing sales inquiries and brand awareness for fastener distributors is our core business.

For many distributors, the concept of using digital marketing represents a daunting challenge that becomes easy to ignore. Many owners and managers reduce the idea of “using the web” to adding an elaborate online shopping cart system to their company website, or to participating in the foggy, and frequently unsatisfying world of social media.

The reality is that building an online sales system represents a major shift in any organization. E-commerce is not something you simply “add on” to your business and it just takes care of itself. While there are several great examples of fastener companies with successful shopping cart systems, many more that have invested in the idea only to discover the very real challenges in attempting full-blown online sales.

Similarly, in the arena of mainstream social media, there seem to be more ghost accounts of fastener distributors than there are of those actively using them as a tool for converting “engagement” into actual sales.

Yet, there are simple and inexpensive ways to dive into the realm of “digital marketing”, and the majority of fastener distributors is not using them.

What follows are a few key pieces of advice, all with the ultimate objective of increasing sales inquiries by operating online.

Get Your Name Out There

Send brief digital news releases to industry trade magazines and associations on a regular basis. They all have websites these days and they will run your releases. Make sure to include a piece of information that mentions your product and why you're the place to get it, and include your website address and a personal contact. Take a look at PRWeb, (www.prweb.com). Set up an account and upload a release. You'll be surprised where it shows up. This may sound like basic, old-school PR, but the advantage of using digital is that the reader can click right to your website or email address from the story, and your information will be “out there” for a long time to come.

Up Your SEO Game

Search Engine Optimization is a geek term for improving your website visibility. Almost all distributors have at least a modestly serviceable website at this point, and it is critical that you take steps to maximize your visibility and effectiveness by building traffic. Broadly speaking, the SEO game is played using on-page and off-page strategies. The content and structure of your website constitutes your on-page effectiveness. Off-page effectiveness is a matter of search index visibility, think Google and Bing, plus deep links onto your website from quality, authoritative websites other than your own. Deep links means pages on your website that take readers to internal pages on your website, where you offer information specific to their needs. This can be specific product information, or even a link directly onto a shopping cart page. SEO is essential, a basic strategy does not have to be expensive, and it will drive sales inquiries. There are numerous tutorials on this subject on YouTube (www.youtube.com). Dedicate some time to watch a few.

DISTRIBUTOR NEWS

Specialty Resources, Inc. (SRI) is excited to announce the launch of our newly designed website!

The new website at www.specialtyresources.com was designed with our readers in mind to improve your viewing experience. Our goals are to provide you with a website that is informational, easy to navigate, and communicates a clear understanding of who we are, and what we do.

Our new website has many benefits for our readers. The responsive design of the website provides an optimal viewing experience on multiple devices including desktops, phones, and tablets. We have streamlined menus and the home pages to help readers easily find the information that they need. Load times of the website have also been reduced with the new design to create a more user-friendly website. Last of all, with the new website design, SRI will be regularly updating content including blogs, case studies, white papers, and newsletters.

As we continue to add content to our website we hope that you will tune in to our blog so that you can be the first to hear about what is going on at SRI and in your industry. Some regularly updated content you can expect to see include SRI news and events, SRI community outreach initiatives, product announcements and offerings, industry news, current events, and original content from SRI team members.

Specialty Resources, Inc is a Global Sourcing & Inventory Management company located in Chester Springs, PA. SRI supplies a wide variety of components including precision machined products, castings, forgings, stampings, rubber and plastic products, seals and gaskets, and specialty fasteners. Value-added services are also provided by SRI at our Chester Springs headquarters including sub-assembly, kitting, and custom packaging. SRI is an ISO 9001 & 14001 certified company with an in-house Quality Control department that incorporates an automotive PPAP quality system for all customers.

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LOCKNUT TECHNOLOGY INC. GET THE "ALL-METAL LOCKNUT ADVANTAGE" from page 38

Advantage #4: Product Variety

Locknut Technology manufactures and stocks one of the widest varieties of all-metal locknuts found in North America. Over 100 million locknuts in various stages of completion are readily available. This means our customers can rely on us to ship what they want when they want it. Both inch and metric sizes are stocked in styles such as Automation Locknuts (A, B & C), Flange Locknuts (F & G), Nylon Insert Flange Locknuts, Centerlock (Two-Way) in both Finished Hex and Finished Jam styles, Collar Locknuts 3/8" thru 3", weld nuts, acorn nuts and our newest addition of FLEXTOP® locknuts. Also, we can tailor the prevailing torque to specific needs as required; a tremendous advantage in difficult assembly operations.

Advantage #5: Large Inventory

In today's economic climate, many companies have been forced to reduce their inventories. At Locknut Technology, we understand that our inventory is just one more advantage that separates us from the competition. We are focused and INVESTED in providing what you need – when you need it. Not only are we carrying finished (plated) locknuts on the shelf, we have plain finish locknuts on hand that can be plated with your customer's specific requirements. In addition, we have a large inventory of raw material that can be processed with a short lead-time. When your customer has a surge in demand, we can react quickly and ensure that your OEM customer receives the product when needed.

Advantage #6: Standards Compliance

Locknuts are all that we do. As such, we have become highly proficient at controlling prevailing torque and torque scatter, well within industry standards. We employ the most modern equipment to add the prevailing torque "locking" feature. Process control in this area is the heart of a locknut. Low torque scatter translates to consistent product tightening and predictable pre-load. Why trust the inferior process control of some products, with their out-of-tolerance prevailing torque, galling, seizing, etc? As a final touch, we add superior quality torque-tension control fluid to reduce torque scatter and produce more reliable, smooth running locknuts. Compare this to some products coated with inferior waxes, some of which were developed to polish wood floors.

Advantage #7: Protection & Plating

The last operation of making a locknut is to plate the part for corrosion protection. Our "commercial" standard

(non-spec) plating thickness is .0002". Compare this to the imported variety of .0001" thickness and we have double the corrosion protection. This adds significantly to the aesthetics and durability of the OEM customer's equipment. The variety of platings and coatings that we offer is virtually limitless. In addition to zinc, we offer cadmium, phos/oil, organics, H.D.G., etc. All of our locknuts are coated with a proprietary torque control fluid to reduce torque scatter and assure a smooth running assembly.

Advantage #8: On-Site Tool Room

We have a fully staffed tool room on the premises to support product development as well as production needs. When new tooling or repair of equipment is required, the response is immediate. This support is another reason you can be assured of your timely delivery, when promised, instead of hearing, "Sorry, our machine was down." Locknut Technology's commitment to building tooling in-house greatly adds to our overall efficiency.

Advantage #9: ISO 9001:2008

Locknut Technology has been operating under ISO 9001-2008 registration to meet world class standards for over 10 years. Every part is fully traceable with lot number identification on cartons, packing slips and invoices. Our in-house lab is equipped to perform any of your certification requirements including Level III PPAP's. Additionally, our locknuts are fully traceable and identified with our registered product headmark.

Advantage #10: Engineering Support

Our knowledgeable sales people are thoroughly trained on the usage, ability and variety of our products. However, situations arise when more specialized engineering support is required. From developing a new product, requiring a special torque range, or an unusual application, we have the engineering support team ready to help. Our in-house tool design group can respond quickly to engineer new tooling for custom applications. Our ability to support this area gives our customers a tremendous advantage when dealing with the technical requirements of prevailing torque locknuts. Locknut Technology has helped customers find solutions for their most critical fastener joints. For each application, the chosen product not only performs the required task, but adds value to your customer's operations.

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NORTH COAST FASTENER ASSOCIATION CAVS DINNER MEETING - FEBRUARY 11, 2016



The above methods have one thing in common – we are turning a nut or screw head. We all (?) know that most of the torque is wasted due to friction under the head or nut (about 50 %) and between the internal and external threads (about 40 %). But, there is another phenomenon that is largely ignored both by educators and practicing engineer and that is TORSION. The resistance (friction) between the internal and external threads will cause a twisting of the bolt/screw and torsional stresses will develop. The result of this torsion/twisting is that the more twisting (the higher friction), the larger is the reduction of the ability of the fastener to carry axial load. We have to reduce the load bearing capacity of the fastener with a factor of around 1.1 if we have good lubrication and as much as 1.4 if we have dry threads.

Hydraulic and thermal tensioning as well as “jack-bolting” is used mainly for larger fastener. A big bolt can be very impractical to tighten by “normal” wrenching. By pulling straight up (hydraulic and jack-bolt) or expanding the bolt by heating (expanding) and cooling (crimping) to clamp we don't have torsional stresses developing. This way we can use the entire strength of the fastener.

[4] Forces

Preload forces and external (work) forces are influenced by a multitude of variables and are often difficult to pin-point precisely. If we use tightening equipment with large preload scatter like impact or hand tightening, we often end up with oversized fasteners to prevent failures at the upper range of the scatter. External forces can be closely determined if they are static and not causing any bending of the fastener. Unfortunately, these types of joints are in a small minority. Most of the time we have dynamic forces acting on bolted/screwed joints. These forces are not always (in fact, seldom) going through the center of the fasteners or the joints. The thread root is a stress riser and if we bend the fastener the stress will be very high on the outer bending phase. With coarse threads (even J-profile) that are produced by cold rolling, the resistance to dynamic failures will be much higher than with finer pitches or if we have cut threads (any pitch).

[5] Other Influences

Temperatures (low or high) can cause negative effects on joints, particularly if we have joint parts made of different materials. Combining steel fasteners with light alloys like

aluminium or magnesium, which expand or contract different from steel as temperatures fluctuate, will add or reduce bolt load. Carbon steel fasteners also have some limits and should not be used at temperatures below -40°C (-40°F) or above +150°C (270°F) unless we take the change in Young's modulus (elastic modulus) into account. I personally recommend not to go above +120°C but automotive goes to +150°C. With increased temperature the E-modulus goes down and that change must be part of the joint calculation. Above +150°C to +300°C it is still possible to use regular carbon steel, but alloy types are much safer. Above +300°C we have to consider creep rather than modulus and have high temperature alloys.

Corrosion can always be problematic if we combine joint- and fastener materials with different anodic/cathodic characteristics. We have today lots of choices for protecting fasteners, from thick hot dip galvanizing, electro plating, mechanical deposition and all the various coatings that has been developed the past decades.

Specifications should always be clear so it takes all guess-work out of the picture. Fortunately, we have very complete fastener standards for both inch and metric. For metric I suggest that you get away from the old and obsolete DIN standards and use ISO. The Germans took away almost all DIN specs back in the 1990's and I can't understand why we in the US support this Din-osaurus. If you really wish to be on top of things, I strongly recommend that you get the IFI Technology Connection. This software from IFI (info@indfast.org) includes both inch standards and metric and is continuously updated with the latest revisions. And make sure that your contacts, customers and suppliers also have it so we communicate from the same page.

Conclusion

From this discussion we can deduce that the fasteners that really “hold the World together” should not be left to guesswork, but methodically factored in to our designs. I have in this writing only skimmed the surface of all potential variables.

There are great opportunities to learn more by attending my full engineering design course FTB from Seminars for Engineers, (info@SeminarsForEngineers.com) or fastener trade courses from Fastener Training Institute FTI (info@FastenerTraining.org) taught by several professionals from the industry. 

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Material Susceptibility

Salim Brahim, an expert on hydrogen embrittlement in fasteners, considers the Material Susceptibility to be the single most important factor in whether a fastener is at risk of hydrogen embrittlement or not. In fact, of the three conditions required for hydrogen embrittlement, he would characterize this one as the root cause when failure occurs, while the other two are simply triggers required for the failure to occur. Regardless of whether one agrees with this assertion or not, the material susceptibility has long been understood to be the key factor in decreasing a fastener's risk for hydrogen embrittlement. Current research has shown that material strength has a 'first order' or primary effect on hydrogen embrittlement susceptibility. Although there are many competing references regarding at what point material strength becomes critical, recent research and investigation by Brahim and other researchers at McGill University, demonstrate that fasteners with hardness levels above Rockwell C 39 (HRC39) have increased hydrogen embrittlement susceptibility. Conversely, therefore, fasteners with hardness levels below HRC39 normally have no significant susceptibility to hydrogen embrittlement failure.

In the course of his research, Brahim has also determined that other material factors can have a second order, or lesser, effect on hydrogen embrittlement susceptibility. On their own these factors may be less critical, but when combined with the hardness risk factor may play an important role in why one lot of fasteners may exhibit hydrogen embrittlement susceptibility and others do not. Several of these other factors include material chemistry, tempering temperature, and non-homogeneity (meaning the uniformity) of the microstructure due to poorly controlled heat treating or presence of impurities and non-metallic inclusions.

Tensile Stress

Stress is how a material responds when a load is exerted on it. Tensile stresses are those stresses incurred when a load is placed that 'pulls' a fastener along its axis. In a standard bolted joint, as the bolt is tightened, the bolt acts like a spring and stretches, resulting in tensile stresses being generated. The more a part is stretched the higher these tensile stresses become. Therefore, bolts in demanding applications, which require high amounts of preload (bolt stretch), may only be installed to levels anywhere from 50-80% of ultimate tensile strength (which can represent loads taking the bolt close to its yield point). In the same manner that some materials exhibit an Endurance Limit or threshold level of stress that if never exceeded will result in an infinite fatigue life, research shows that steel fasteners exhibit a "hydrogen

embrittlement threshold stress". Like the Fatigue Endurance Limit, if the tensile stress that is experienced by the preloaded bolt fails to exceed this threshold value, hydrogen embrittlement will not occur. Unfortunately, this "hydrogen embrittlement threshold stress" must be experimentally determined for each material and is not a value currently available to the designer in normal reference documents.

If a fastener is highly preloaded there are certain areas that exhibit greater concentration of stress than others. For screws and bolts, these areas tend to be the underhead fillet radius area (where the head and shank come together) and the first engaged thread at the nut or nut member. Because the stress distribution in nuts normally keeps the stresses below the hydrogen embrittlement threshold values, it is very uncommon for nuts to experience hydrogen embrittlement. Spring washers and spring metal clips, however, are not as fortunate and experience high levels of stress when compressed. Therefore, these items often have a higher risk of hydrogen embrittlement failure.

Hydrogen Source

The third component that is required for a hydrogen embrittlement failure is a source of atomic hydrogen. This should not be confused with molecular hydrogen, e.g. the form hydrogen takes as a gas. This is an important distinction, as atomic hydrogen, is generated when hydrogen containing substances such as a water or acid, dissociate and release the H⁺ ion which can be easily converted to atomic hydrogen. This is what happens, for example, when electrolysis occurs during electrocleaning and electroplating or as result of galvanic action during corrosion.

To reiterate once again, the source of atomic hydrogen can be internal or external. Internal hydrogen refers to exposure to sources that occur during the part's fabrication. Typical IHE sources include residuals left in the steel from the steel making process (especially if the steel was melted without a vacuum degassing step), electrocleaning, pickling, and electroplating.

Sources of external hydrogen usually are the result of corrosion. When a part is protected with sacrificial plating (meaning the plating sacrifices itself to protect the base metal), galvanic action can result in atomic hydrogen evolution which is subsequently absorbed by the part in areas where the plating is damaged, porous, or reduced due to the corrosion. Corrosion is often dismissed or underestimated as a potential source of external hydrogen. However, in reality, the quantity of atomic hydrogen absorbed can be substantial relative to parts that do not have similar sacrificial platings.

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JOE DYSART DODGING SPAM FILTERS: GIVING LEGITIMATE EMAILS THE BEST CHANCE TO GET THROUGH *from page 108*

• **Examine those messages included in emails bounced back to you** Fastener distributors can often get a clue about the specific reason a spam filter considers your email or marketing message spam by examining the explanatory messaging that's often included with emails that are bounced back to you. At the very least, if you change your emails based on what you learn from these bounce-backs, you'll lower your overall spam score.

• **Monitor your deliverability** You can get a decent idea as to whether or not your emails are getting through spam filters by creating a number of phantom email addresses on the popular free email services. If you send your message to ten phantom email addresses on Yahoo Mail, AOL, Hotmail and Gmail – a total of 50 phantom email addresses – and all 50 emails arrive, chances are your emails are faring well in the world's spam filters.

• **Get Certified** You can get certified as a trusted sender by companies like Return Path (www.returnpath.com), if you allow them to audit your

email sending practices and they can verify you play by the rules. You'll need to be sending from a 'static IP' to get such certification – or an IP address for your business that remains constant. Your IT person, or your Internet Service Provider, will be able to advise you about the kind of IP you have.

• **Go Deeper** The more fastener distributors know about how spam filters work, the easier it will be for them to legitimately avoid them. MailChimp offers, a free, easy-to-read in-depth guide (www.mailchimp.com/resources/guides/how-to-avoid-spam-filters/html).

Your attorney will also want to read over the legislative fine print about what the U.S. government sees as spam, and what penalties are in store for you if you're caught sending spam. You can get all those details from the CAN-SPAM ACT: <https://www.ftc.gov/tips-advice/business-center/guidance/can-spam-act-compliance-guide-business>.

Canada has its own Anti-Spam Guide: <http://fightspam.gc.ca/eic/site/030.nsf/eng/home>. ☞

JOE DYSART



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DISTRIBUTOR NEWS

New England Fastener Distributors Association (NEFDA) recently announced more date on its upcoming events schedule.

June 2, 2016 - Annual Golf Outing and Placing of New Board.

October 6, 2016 - Special Events - Hall of Fame Recognition, Scholarship Awards

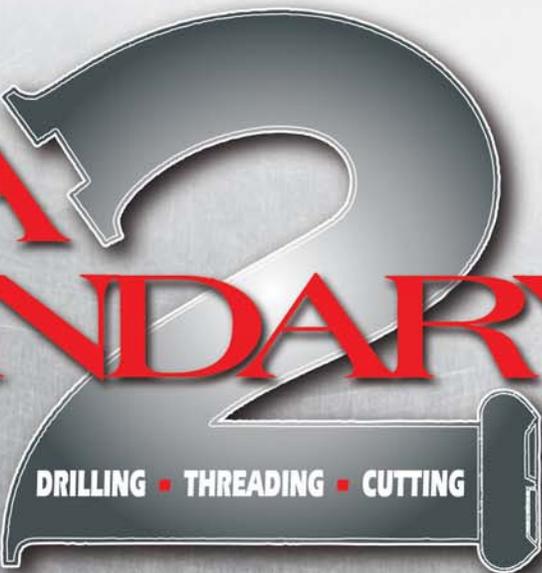
Spring 2017 - NEFDA Table Top Show and Technical Seminars, Foxwood Resort Casino

In addition, NEFDA Scholarship applications are now open to High School Seniors. Scholarship applications due August 1st. Applications available at www.nefda.com.

Finally, NEFDA would like to formally welcome its newest members; Eurolink FSS LLC - Greer, SC and The Dyson Corp. - Painesville, OH.

For more information about NEFDA or to join, contact them at PO Box 151, Lake Zurich, IL 60047, Tel: 847-370-9022, Fax: 847-516-6728, Email: nancy@nefda.com or visit them online at www.nefda.com.

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RICHARD HAGAN FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE SECOND HALF OF 2015 from page 110



On September 1, 2015, **W.W. Grainger Inc.** (“Grainger”) purchased **Cromwell Group Holdings Limited** (“Cromwell Group”). Founded in 1970 and headquartered in Leicester, England, Cromwell Group is the largest independent MRO distributor in the United Kingdom. A privately-owned company, Cromwell Group supplies a broad range of industrial products to more than 35,000 MRO customers in more than 44 countries on five continents. Cromwell Group employs more than 2,150 people and operates 67 branches in the UK and continental Europe. The company generated net sales of £283 million (US\$440 million) in the fiscal year ended August 31, 2015. Headquartered in Lake Forest, Illinois, Grainger (NYSE: GWW) is North America’s largest distributor of MRO products with net sales of \$10.0 billion in calendar 2014. Grainger operates 33 distribution centers and 681 branches around the world and employs approximately 23,600 people worldwide.

Purchase price: £310 million (US\$482 million)



On September 1, 2015, **Nord-Lock International AB** (“Nord-Lock”) purchased **Boltight Limited**. Founded in 1999 and located in Walsall, England, Boltight develops, manufactures and distributes hydraulic bolt tensioning products and systems. The company’s products are used in power generation, oil & gas (both onshore and offshore), mining, wind turbine and a diverse range of general industrial applications. A privately-owned company, Boltight employs 18 people and generated net sales of approximately £4.0 million (US\$6.2 million) in 2014. Founded in 1982 and headquartered in Malmö, Sweden, Nord-Lock is a designer and manufacturer of proprietary bolt securing and bolt tensioning products and systems. The company’s products are primarily used in safety-critical applications, typically involving high-pressure and/or high-vibration environments. Nord-Lock is a wholly-owned subsidiary of Investment AB Latour (Stockholm Stock Exchange: LATO), a Göteborg, Sweden-based investment company.

Purchase price: not available



On September 18, 2015, **Pentair plc Global Company** (“ERICO”). Founded in 1906, ERICO is a manufacturer of: i) electrical grounding, bonding and connectivity products (ERICO® brand); ii) fastening and

support products for electrical cable, pipes, lighting and HVAC equipment (Caddy® brand); iii) low voltage power and grounding connections (ERIFLEX® brand); and iv) rebar coupling systems for steel fabricators and concrete construction contractors (LENTON® brand). Headquartered in Solon, Ohio, ERICO employs more than 1,200 people in 30 countries and generates annual net sales of around \$570 million. Headquartered in Manchester, England, Pentair (NYSE: PNR) is a global manufacturer comprised of four operating segments: i) Valves & Controls (valves, fittings, actuators, etc.); ii) Flow & Filtration Solutions (filtration and fluid management systems); iii) Water Quality Systems (water treatment and filtration systems); and iv) Technical Solutions (metal and non-metallic enclosures, heat management solutions and engineered fasteners). Pentair employs approximately 30,000 people worldwide and generated net sales of \$7.0 billion in calendar 2014. ERICO was a portfolio company of Court Square Capital Partners, a New York City-based private equity firm.

Purchase price: \$1.82 billion

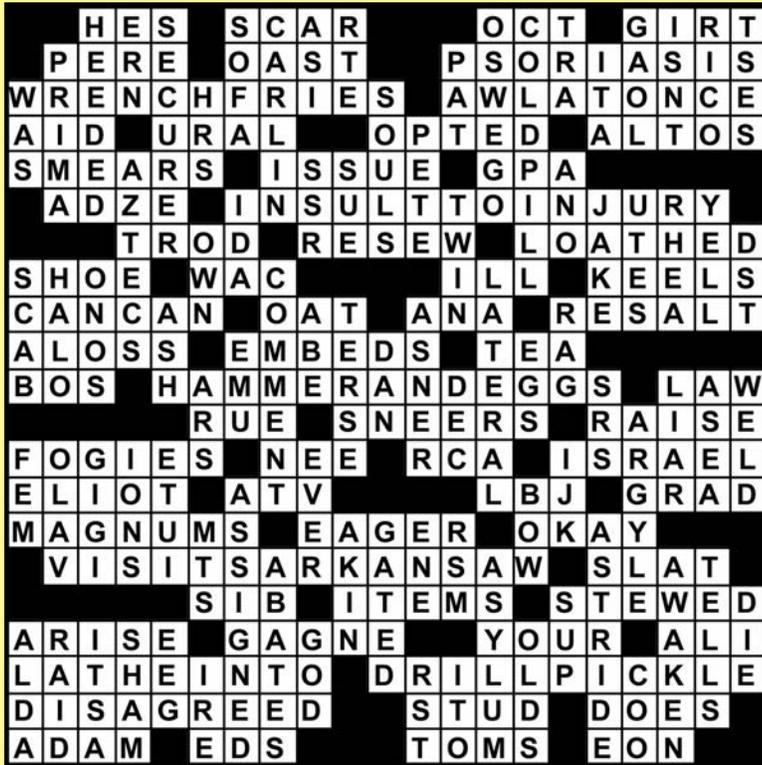


On October 1, 2015, **Koninklijke Nedschroef Holding B.V.** (“Nedschroef”) purchased two manufacturing plants in Germany from **Whitesell Germany GmbH & Co. KG** (“Whitesell Germany”). The two plants are located in Beckingen and Schrozberg, Germany. Both of the acquired operations manufacture cold headed and/or machined fasteners and components which are sold primarily to the European automotive industry. Whitesell Germany entered insolvency in January 2015 and the transaction with Nedschroef was overseen by an appointed insolvency administrator. Founded in 1894 and headquartered in Helmond, The Netherlands, Nedschroef manufactures a broad range of cold headed fasteners and specialty components which are sold primarily to the European automotive industry. The company is also engaged in the design and manufacture of cold heading machinery used to manufacture fasteners. Nedschroef: i) operates from 24 locations in 14 countries; ii) employs approximately 2,000 people worldwide; and iii) generates annual net sales of more than EURO550 million. Nedschroef is a wholly-owned subsidiary of Shanghai Prime Machinery Company Limited (Hong Kong Stock Exchange: 02345).

Purchase price: not available

PUZZLE SOLUTIONS

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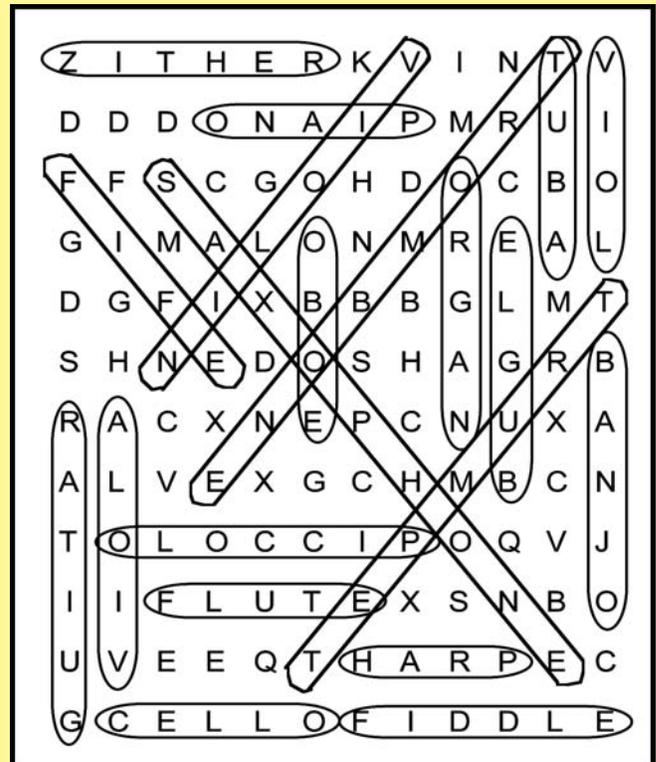


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| 7. Guitar | 17. Viol |
| 8. Harp | 18. Viola |
| 9. Oboe | 19. Violin |
| 10. Organ | 20. Zither |



Maintenance is also addressed by this section. A vehicle that is regularly inspected and serviced is going to be safer. Finding out that the brake fluid is low by looking at the reservoir is far better than discovering that there are no brakes when rapidly approaching a loading dock with a 4' drop. Newer vehicles have programs to monitor critical fluids, temperatures and power draws with alerts for the driver and/or ways to shut down the machinery before things get worse. Examining these features as well as the initial costs should be driving purchase and upgrade situations. In this manner enhanced safety can also mean better productivity, scheduled maintenance and improved safety for the drivers and those around them.

For a better idea of how this can work for you instead of against you go to OSHA.gov and type in 1910.178. This will get you to far more information than you ever wanted to know about this subject. Unless suffering from insomnia you can skip the really obtuse stuff that probably doesn't apply to you anyway, or it is already standard on the vehicle in your operation. Go instead directly to the "Standard Interpretations" where a subject index might provide easier to understand and context specific information.

A good case in point is the "requirement" for those obnoxious back up beeping alarms. A quick reading explains that these are not mandatory, but context driven by the user. If there is only one vehicle in the warehouse, driven by the only person in the building you can pull the wires or fuse without being in violation of an otherwise onerous sounding standard.

If cited for anything then the Interpretations are absolutely a vital step in determining whether the inspector has overstepped his mandate. It's also a great way to learn about the standard's application and use. Five minutes spent in perusing an index of interpretation can help you focus on what is really pertinent in the standard and develop training or solutions that will work for you, instead of against you. While Section 1910.178 is germane for anyone with a forklift Section 1910.147 on Lockout/Tagout is a great introduction to the larger issues of machine guarding for manufacturing. This is where one can find out the full ramifications of removing

or modifying a vendor installed safety devise. The answers may redirect your thinking about this subject and potentially eliminate an accident that is about to happen.

What Every Employer Needs To Know

If there is one thing any bureaucrat loves is paperwork and documentation. While violations of Record Keeping is not specifically mentioned in the Top Ten it is included in most sections and has continually evolved along with the other standards. Keeping track of every health and safety related activity is one way to establish an "aura of compliance" indicative of a sincere desire to provide the best possible work environment. Publishing and compiling records of meetings and implementation of improvements can mitigate or eliminate a citation and may be admissible in court if necessary.

Changing the light bulb to eliminate a hazard is indeed a demonstration of concern. Documenting a discussion or training session similarly shows how health and safety are a part of the corporate culture and a mandate of the company's mission. Large or small, distributor, rep or manufacturer OSHA can indeed come calling and when they do having evidence of good intentions can indeed help keep an OSHA encounter friendly and constructive. This is a part of their mission that has not changed. Right from the start and continuing today OSHA is seeking Voluntary cooperation. When outnumbered 60,000 to one the Inspectors know that their greatest impact comes not from citations but from getting the attention of employers and helping them enhance their facilities and operations with minimal coercion. Inspectors who are tied up in court can't inspect and litigation is expensive for everyone, including the government.

Therefore take a look at what OSHA offers on their website. The articles and information can be perused quickly and if you call in an inspector for voluntary assistance that individual cannot cite you for most offenses. They might come back at a later date to check, but normally their assistance can help you get started on a road that you would take anyway. 

DISTRIBUTOR NEWS

Rivet & Eyelet Technologies

LLC's national sales manager Maria Garcia announced Matt Nerney as their new regional sales manager. Rivet & Eyelet is a domestic and international source for stamped and extruded blind rivets, setting tools and custom engineered eyelet products.

Rivet & Eyelet also recently named C.R. Kinsman & Assoc Inc as manufacturer and stocking reps.

C.R. Kinsman sales team covering AR, KS, LA, MO, MS, NE, OK, TX headed by Craig Kinsman will also serve as a stocking warehouse. Located at 1110 Pamela Drive, Euless, TX 76040. Tel: 1-800-772-9864 or Fax: 817-371-9864

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For more information, contact Rivet & Eyelet Technologies at Tel: 978-851-2700, Fax: 978 851-4488, via email at: mattn@riveteyelet.com, or visit them online at riveteyelet.com.



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DISTRIBUTOR NEWS

MW Industries, Inc., a leading provider of highly engineered springs, specialty fasteners, machined parts, and other precision components, announced today the acquisition of USA Fastener Group, Inc., an industry leading manufacturer of various fasteners, including studs, nuts and other precision machined parts.

MW has completed a number of acquisitions to strengthen its product offerings and customer base and is currently evaluating a strong pipeline of possible transactions.

MW Industries, Inc., headquartered in Rosemont,

IL, is a leading provider of highly engineered springs, specialty fasteners, machined parts and other precision components to more than 23,000 customers in over 35 countries. Its 40,000+ products are sold through a combination of direct sales, catalogs and distributors to original equipment manufacturers and aftermarket customers in a number of industries, including aerospace, medical, electronics, energy, agriculture, construction, automotive replacement and military.

For more information about the acquisition, contact MW Industries visit them online at www.mw-ind.com.

[3] Standards in the revision process

- **ASME B18.2.1** Bolts and Cap Screws (inch series). Sept 2014, work has begun to add a missing Lg/Lb table for hex flange head screws and correct a few other minor issues and to add "Tap Bolts". Completion is expected in 2016.
- **ASME B18.2.6** Structural Fasteners (inch series). Sept 2014, work has begun to revise this standard to incorporate a critical table note currently covered by a Supplement and to make minor revisions to the DTI portion of the standard. Completion is expected in 2016.
- **B18.6.5M** Metric Thread-Forming and Thread-Cutting Tapping Screws. At the September 2015 B18 meetings it was proposed that this standard was balloted for withdrawal for transition to the ISO and DIN standards.
- **B18.6.7M** Metric Machine Screws. At the September 2015 B18 meetings it was proposed that this standard was balloted for withdrawal for users to transition to the comparable ISO and DIN standards.
- **ASME B18.13** SEMS (inch series). This standard was last revised in 1996 and will now undergo a complete revision to reflect changes and additions to the metric version B18.13.1M. A second ballot was issued in late September. Several negatives were received. The resolutions are being worked on and another ballot should be issued in 2016.
- **ASME B18.31.1** is being balloted for re-approval. The current revision is from 2008.
- **ASTM A354** Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners. Some weaknesses in the standard were discovered as a result of the threaded rod failures on the Bay Bridge. The committee is proposing that a higher grade of alloy steel be required for sizes over 2-1/4 inches to assure better hardenability plus Charpy testing and cross-sectional hardness testing for sizes over 2-1/4 in. The third ballot was closed in last November. A few negatives were resolved at the committee meeting in Tampa. A fourth ballot will go out early 2016.
- **ASTM F606/F606M** Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension

Indicators, and Rivets. A ballot opened October 2, 2015 to clarify that a single bolt or screw cannot be tested for both yield strength and then wedge tensile testing. The ballot received one negative that is being resolved. Simultaneously a task group was created to address the misuse of the term "yield strength" for testing full size fasteners.

- **ASTM F2282** CHQ Rod and Wire Requirement. A working Group coordinated by IFI staff was created. There were four web conferences conducted that have resulted in a ballot proposal. The proposal was discussed at the F16 meeting in November in Tampa. The proposal will be balloted in early 2016.
- **ISO 4042** Electroplating finishes for fasteners was discussed at the ISO TC 2 meetings in New Orleans during the third week of October. The next ad hoc working group meeting is scheduled in July, 2016 in Montreal. A CD ballot will be circulated prior to the meeting.
- **ISO 3269** Fastener acceptance. At the ad hoc meeting in Paris in June, 2014, it was agreed to use the c=0 plan (similar to ASTM F1470 and ASME B18.18) as a receiving inspection plan at the purchaser's option. At the ad hoc working group meeting in June 2015 in Paris it was decided that ISO 3269 will be revised once more by the working group. This was discussed at the October 11 – 17 ISO TC2 meeting in New Orleans and it was agreed that more work will be undertaken at a July 2016 ad hoc meeting in Montreal.
- **ISO 6157** Fastener surface discontinuities was discussed in Paris in October 2013. Work will continue in the working group in 2016.
- **ISO 1891-4** Terms and terminology related to quality assurance. This is being balloted for approval to begin the formal balloting process in the near future. This is likely to be approved and the first content ballot should be voted on before the end of 2016.

[4] Standards Organization Meetings

- **ASTM F16 Fastener Committee**
May 2-3, 2016, San Antonio, Texas.
- **ASME B18 Fastener Committee**
May 4, 2016, San Antonio, Texas.
- **ASME B1 Screw Thread Committee**
May 3-5, 2016, Orlando, Florida. 

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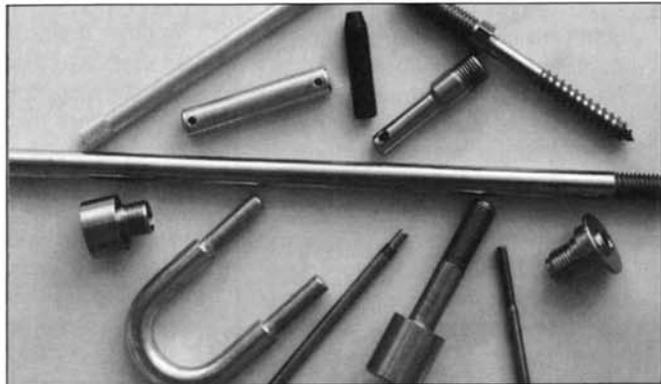
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Time

One of the distinguishing factors of hydrogen embrittlement failures is that they require time to occur. Therefore, if a part breaks at installation, hydrogen embrittlement can almost certainly be ruled out since the part has not been under load long enough for the hydrogen to move and embrittle the parts. In most cases of IHE, it takes several hours to several days for the problem to show up. EHE may occur a long-time, even many years, after installation. Clearly, though, delay in failure after installation is one of the important distinguishing features determining whether a failure is due to hydrogen embrittlement or some other failure mode.

Risk Reduction And Prevention

It is clear that it takes the three contributing factors, Material Susceptibility, Tensile Stress, and a Hydrogen Source, to generate a hydrogen embrittlement problem. Remove any one of these three factors and the risk goes away completely. However, in the absence of the ability to remove one or more of these factors, the designer and fastener engineer must turn their attention to what can be done to reduce the risk.

Baking

The traditional approach to hydrogen embrittlement risk reduction is to bake parts at temperatures about 400°F for a stipulated period of time. The belief is that by doing this the hydrogen is driven out of the part. Of course, it is not quite this simple if the part is plated or coated, as platings and coatings possess different properties that can affect the ability of the hydrogen to get out. However, on a conceptual level it is universally agreed that this process is one of the best means of risk reduction.

Unfortunately there are a significant number of conflicting guidelines between industry and individual end user specifications regarding the time required to bake, how quickly the parts must be baked after plating, and what hardness constitutes a threshold level requiring baking. Brahim's research suggests clarifications to these questions. The most significant finding being that fasteners under HRC 39 do not normally require baking. Additional findings bring into question the value of "snap tempers", the practice of getting parts into a baking oven within several hours of plating, and new questions emerge about an adequate length of time required to bake the parts.

As a result of these findings, a number of the prominent industry plating standards are being revised to reflect the

new information related to fastener hardness. However, there is still a great deal of conflicting information out there that results in this being one of the least understood issues related to fasteners. Take for example the conflict between ASTM standards B633 and F1941, the B633 standard is the general zinc electroplating standard and requires baking parts as low as approximately HRC 31 while F1941 was written explicitly for electroplating fasteners and does not require baking until parts are greater than HRC 39. Only through continued industry education and awareness will these issues ultimately be resolved.

Source Of Hydrogen

In the past few years, there has been an increase in coating options that eliminate the exposure of parts to hydrogen sources. Instead of cleaning or activating parts using electrocleaning methods they incorporate mechanical methods, such as bead blasting, to accomplish these processes. In this way, the part is either never exposed or has very limited exposure to a source of hydrogen. Likewise, most enlightened platers take precautions to use buffered acids and limit the amount of time that parts are in the electrocleaning and pickling processes, thus reducing part exposure to atomic hydrogen.

Conclusion

A hydrogen embrittlement failure is one of those events that a fastener supplier never wants to have happen. They can be so catastrophic and costly that many suppliers could have difficulties weathering the aftermath. The good news is that with solid education, awareness, and process controls, hydrogen embrittlement failures are preventable. Therefore, most fastener suppliers would benefit from training and education on this topic. The Fastener Training Institute (FTI) sponsors just such training, facilitated by Salim Brahim. More information on this seminar can be found at www.fastenertraining.org. Additionally, a short, but comprehensive White Paper, "Fundamentals of Hydrogen Embrittlement in Steel Fasteners" by Brahim is available through the Industrial Fasteners Institute at their on-line store. For the fastener distributor, making yourself more aware will go a long way to making these events rare, if not non-existent.

References

Brahimi, Salim, Fundamentals of Hydrogen Embrittlement in Steel Fasteners, Ibeca Technologies, 2014. 

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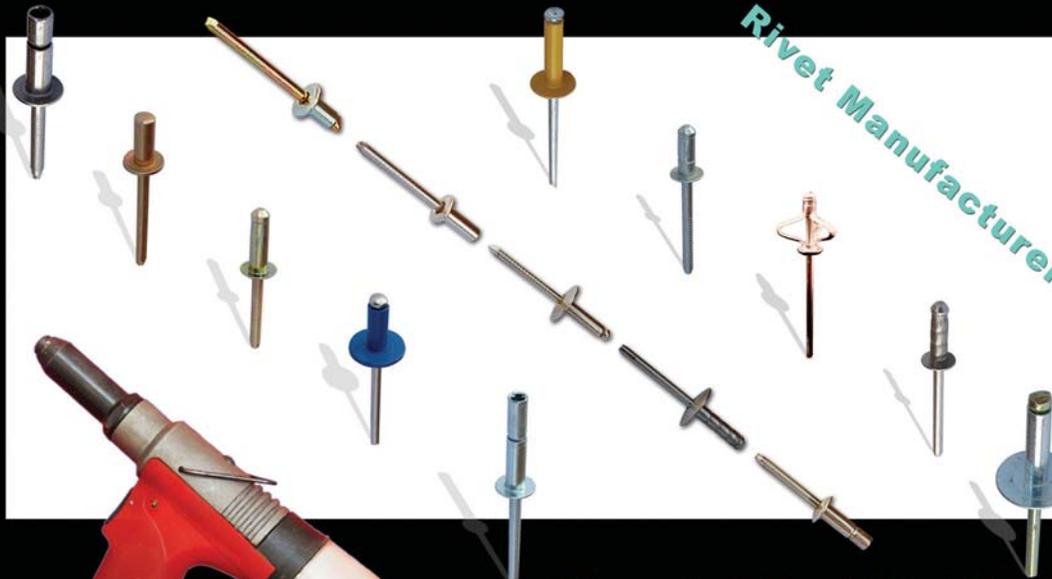


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MAFDA ANNUAL REP SYMPOSIUM 2015

The Valley Forge Casino Resort, Valley Forge PA, USA was the location of the MAFDA Annual Rep Symposium held on November 5th, 2015. Over fifty members and industry professionals gathered for an evening of camaraderie, fine dining, and to participate in the ever popular Rep Symposium series of educational events hosted by the MAFDA.

The evening began with a presentation delivered by Rob White of the SB & W Company, represented by Murty Associates. Founded in 1983, SB & W has become known for its supply of complex products and assemblies, generally imported from affiliated factories in Hangzhou and Beijing, China. Rob displayed a variety of items of which they currently provide, further emphasizing the breadth of their supply capabilities. SB & W welcomes the challenges brought to them by the distribution sector, providing quality and logistics support to further enhance their value to the supply chain.

Jim Haste of Tri-Star Industries, Inc, represented by The Hanson Group, followed with an equally informative presentation on the benefits of, and the products

manufactured by the company. Breadth of equipment, experienced operators, and quality products were reflected hallmarks of this growing organization. Tri-Star Industries remains committed to being THE number one recognized quality provider of threaded inserts for plastic, sold through distribution companies.

Next to present was the President of CD Hardware, Joseph Moukalled, represented by Jack Gourley of John Gourley Associates. CD Hardware is an innovative company providing hardware components (e.g. handles, catches/latches, etc.) that meet and/or exceed the quality and performance characteristics of its competitor manufacturers. During his presentation, Joseph emphasized (and helped educate the listeners) on the importance of SPC during the manufacturing process, explaining Cp (Process Capability) and Cpk (Process Performance) indices that when met, help ensure the supply of consistently quality products with little to no need for post manufacture inspection. Clearly the commitment to customer satisfaction remains mission critical to the continued success of CD Hardware.



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FCH SOURCING NETWORK INCREASE FASTENER SALES INQUIRIES IN THE DIGITAL AGE from page 148

Revisit Social Media

Many fastener companies that experimented with sites like Twitter and FaceBook to drive business came away disenchanted and abandoned them. Modify your expectations and look again. At the very least, all fastener distributors should have at least a LinkedIn company profile, a Twitter account, and probably a Google+ account. One important reason for this is that there are SEO benefits in doing so, and that's extremely important, as mentioned above. The other reason, especially in the case of LinkedIn and Twitter, is that sales people will find these to be invaluable prospecting tools, especially as time goes on and more "millennials" use these and similar sites as standard communication platforms. These tools can be misunderstood and even misused, but they are a simple way to develop relationships and brand awareness that lead to sales.

Consider Using FCH

Mentioned previously, the primary objective of the FCH Sourcing Network is to develop sales inquires and brand awareness for fastener distributors. We do this by listing and promoting fastener inventory, currently about 1.25

million lines, and by sending our member companies targeted RFQs, via the FCH SourceFinder system. As icing on the cake, members' banner ads are run with inbound web links as part of the package. On any given business day, over 1,200 unique companies search for fasteners through the network, and our job is to funnel them to our members as sales inquiries. An overlooked bonus, member companies receive SEO benefits as a result of listing with FCH, as we host literally tens of thousands of index pages with specific product links. Different companies use FCH in different ways. Some focus strictly on inquiries from inventory listings, some use the network primarily to receive SourceFinder RFQs, and others find the brand awareness aspects and SEO as the main benefit. Offering a variety of digital marketing benefits at an extremely modest investment for membership, our philosophy remains: "Why wouldn't you?"

The universe of digital marketing is vast, yet full of opportunity. There are simple steps you should be taking that will lead to sales, new business and increased brand awareness that don't require you to redesign your entire operation or invest big money. To increase sales in the digital age, it's time to up your digital marketing game. 

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On October 1, 2015, **Trifast plc** purchased **Kuhlmann**

Befestigungs-elemente GmbH & Co. KG ("Kuhlmann").

Founded in 1996 and located outside Bielefeld, Germany, Kuhlmann is a value-added distributor of fasteners and Class C components, supplying a diverse range of industrial OEM customers in Germany. The company employs a total of 18 people and the existing ownership / management team will continue to run the business following the transaction closing. For the 12 months ended December 31, 2014, Kuhlmann generated net sales of ?6.7 million and pre-tax profit of EURO1.74 million. Founded in 1973 and headquartered in Uckfield, England, Trifast (London Stock Exchange: TRI) is a global manufacturer of specialty fasteners and a value-added distributor of fasteners and Class C parts. Thirty-three percent of Trifast's net sales are derived from manufacturing and 67% of net sales are derived from distribution (sale of product not manufactured in-house). The company operates 7 manufacturing plants and 26 distribution locations across Europe, Asia and North America. In the 12 months ended March 31, 2015, Trifast generated net sales of £154.74 million and pre-tax profit of £14.31 million.

Purchase price: EURO8.5 million



On October 9, 2015, **Adolf Würth GmbH & Co. KG** ("Würth Group") purchased **Des Moines Bolt Supply Inc.**

("DM Bolt"). Founded in 1978 and headquartered in Des Moines, Iowa, DM Bolt is a distributor of fasteners and Class C parts, specializing in providing customers with advanced supply chain management solutions. The privately-owned company operates four branch warehouses in Iowa (3) and Lincoln, Nebraska and employs a total of 95 people. Following the transaction closing, DM Bolt became a business unit of Würth Industry of North America ("WINA"), one of the largest fastener and Class C component distributors in North America. Headquartered in Künzelsau, Germany, Würth Group is a global manufacturer and distributor of fasteners, assembly components and general industrial supplies. Würth Group is comprised of more than 400 companies and employs

more than 67,000 people worldwide. A privately-owned company, Würth Group generated net sales of EURO10.1 billion in fiscal 2014.

Purchase price: not available



Precision Specialties
Simply the Best for Over 30 Years

On October 19, 2015, **G.L. Huyett Company** purchased

Precision Specialties LLC.

Founded in 1981 and located in Collierville, Tennessee, Precision Specialties is a privately-owned distributor of fasteners and assembly hardware. The company is an authorized distributor for several premier fastener brands including ARaymond / Tinnerman (push-on fasteners, retainers and clips), AVK (threaded inserts and studs), Rotor Clip (retaining rings and wave rings) and Oetiker (clamps and rings). Founded in 1906 and located in rural Minneapolis, Kansas, G.L. Huyett is an importer and stocking master distributor of fasteners. The company specializes in non-threaded fasteners (such as pins, rings and bushings) and grease fittings.

Purchase price: not available



Servometer
Innovative Engineered Bellows

On October 30, 2015, **MW Industries Inc.** purchased **Precision**

Manufacturing Group LLC ("PMG").

PMG, doing business as Servometer®, was founded in 1957 and is located in Cedar Grove, New Jersey. The company designs and manufactures electroformed metal bellows, flexible shaft couplings, electrical contacts and light-weight specialty electroforms. Servometer products are used by a diverse range of end-user industries, including electronics, instrumentation, energy, military and medical devices. BellowsTech LLC, a wholly-owned subsidiary of PMG, designs and manufactures edge-welded metal bellows for a broad range of high-tech applications. BellowsTech was acquired by PMG in 2007 and is located in Ormond Beach, Florida. MW Industries is a manufacturer of engineered mechanical components including springs, precision stampings, wire forms, specialty fasteners and machined components. Headquartered outside Chicago, MW Industries is comprised of 18 manufacturing divisions (before the PMG acquisition) spread across the United States. The seller of PMG was Anvil Capital LLC, a Boston-based private equity firm.

Purchase price: not available



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RICHARD HAGAN FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE SECOND HALF OF 2015 from page 170



On October 31, 2015, **Fastenal Company** purchased **Fasteners Inc.** Founded in 1961 and headquartered in Spokane, Washington, Fasteners Inc. is a regional distributor of fasteners, along with a broad range of industrial and construction supplies. The company operates 13 store locations in Washington (7), Montana (3), Idaho (2) and Oregon (1). Fasteners Inc. employs a total of 171 people and generated net sales of approximately \$36 million in 2015. Headquartered in Winona, Minnesota, Fastenal (Nasdaq: FAST) is one of the largest fastener distributors in North America with approximately 2,600 stores and 14 distribution centers worldwide. Fastenal employs more than 17,000 people (full-time) and generated net sales of \$3.87 billion in calendar 2015.

Purchase price: \$23.5 million



On November 1, 2015, **Sems and Specials Inc.** purchased **American Fasteners & Components Inc.** ("AFC"). Founded in 2007 and located in

Rockford, Illinois, AFC is a small, privately-owned manufacturer and importer of screws and sems. Founded in 1990 and also located in Rockford, Illinois, Sems and Specials is a manufacturer of cold headed screws and sems, specializing in both standard and made-to-print parts. As a "stocking manufacturer", the company focuses primarily on selling to the North American distributor market. A privately-owned company, Sems and Specials employs 91 people at its headquarters location, which includes 60,000 square feet of manufacturing space and 30,000 square feet of warehouse space.

Purchase price: not available



On November 2, 2015, **Optimas OE Solutions LLC** ("Optimas") purchased **Barton Cold-Form Limited**

("Barton"). A privately-owned company located outside Worcester, England, Barton is a manufacturer of cold headed, externally-threaded fasteners (bolts, screws,

studs, solid rivets, etc.) and made-to-print parts. The company's customer base includes several European automotive OEMs and their tier suppliers. Barton employs around 70 people and generates annual net sales of around £8.0 million. Optimas was formed in July 2015 when American Industrial Partners - a New York City-based private equity firm - purchased the Anixter Fasteners division of Anixter International Inc. (NYSE: AXE) and changed the name to Optimas. Headquartered in Glenview, Illinois, Optimas is a global manufacturer and distributor of fasteners, assembly hardware and Class C components. The company specializes in providing advanced supply chain management solutions to customers in the automotive, heavy truck, agricultural machinery, recreational vehicle and power generation industries. Optimas operates from 74 locations in 15 countries and employs almost 2,000 people (before the Barton acquisition). Optimas generated net sales of \$938.5 million in calendar 2014.

Purchase price: not available



On November 3, 2015, **Keller & Kalmbach GmbH**

purchased **Infinity Fasteners Inc.** Founded in 1990 and headquartered in Lenexa, Kansas, Infinity Fasteners is a distributor of fasteners and Class C parts which specializes in providing customers with value-added supply chain management solutions. The company operated four branch offices in: Omaha, Nebraska; Piqua, Ohio; Fresno, California and City of Industry, California. Infinity Fasteners employs a total of 35 people and generates annual net sales of approximately \$15 million. Founded in 1978 and headquartered in Unterschleissheim, Germany Keller & Kalmbach is a distributor of fasteners and Class C components, specializing in providing advanced supply chain solutions to customers. A family-owned company, Keller & Kalmbach operates from 20 locations in Germany (10), China (3), Taiwan, Hungary, Czech Republic, Romania, Poland, Italy and Austria. The company employs more than 700 people worldwide and generated net sales of approximately EURO250 million in 2014.

Purchase price: not available

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RICHARD HAGAN FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE SECOND HALF OF 2015 from page 172



On November 27, 2015, **Bufab Holding AB** ("Bufab Group") purchased **Apex Stainless Holdings Limited** ("Apex Stainless"). Founded

in 1991 and head-quartered in Rugby, England, Apex Stainless is an importer and specialist distributor of stainless steel fasteners. The company operates three branch warehouses in Bilston, Teddington and Leeds, England, along with a nut manufacturing plant in Leicester, England. A privately-owned company, Apex Stainless employs a total of 110 people and generated net sales of £23.6 million in 2014. Founded in 1977 and headquartered in Värnamo, Sweden, Bufab Group is a distributor of fasteners and Class C components, specializing in providing customers with advanced supply chain management solutions. The company operates 29 wholly-owned subsidiaries in 23 countries and employs a total of 830 people (before the Apex Stainless acquisition). In calendar 2014, Bufab Group generated net sales of SEK 2.2 billion (US\$255 million). Bufab Group shares are traded on the Nasdaq OMX Stockholm stock exchange (symbol: BUFAB).

Purchase price: SEK 310 million (US\$36 million)



On December 1, 2015, **Montrose Fasteners Limited**

purchased **Izfast Limited**. Founded in 2007 and located in Milton Keynes, England, Izfast is a distributor of fasteners and industrial supplies. The company focuses on supplying MRO and OEM customers in Buckinghamshire County and the surrounding territory. Founded in 1991 and located in Wycombe, England, Montrose Fasteners is a value-added distributor of fasteners and Class C components. The company provides its diverse OEM customer base with a range of supply chain management services including bin-stocking and remote bar code scan ordering. Following the transaction closing, the Izfast operation was consolidated into Montrose Fasteners' sole branch warehouse in Kempston, England and all the Izfast employees were retained.

Purchase price: not available



On December 1, 2015, **Wilhelm Böllhoff GmbH & Co. KG** ("Böllhoff Group") purchased **Unifast Srl**. Founded in 1985 and

headquartered outside Turin, Italy, Unifast is a manufacturer and distributor of weld nuts, blind rivet nuts, clip fasteners, quick-install studs and other specialty fastener products. The company's products are used primarily for sheet metal applications and approximately one-half of net sale are derived from the Italian automotive industry. A family-owned company with approximately 50 employees, Unifast also operates a wholly-owned distribution company in the United Kingdom. Founded in 1877 and headquartered in Bielefeld, Germany, Böllhoff Group is a manufacturer and distributor of specialty fasteners and assembly systems for metal and plastic applications. The company's product range includes screws, self-piercing rivets, blind rivets, blind rivet nuts, threaded inserts and installation tooling. A family-owned company, Böllhoff Group: i) operates from 40 locations in 24 countries; ii) employs more than 2,300 people worldwide; and iii) generated net sales of approximately EURO486 million in 2014.

Purchase price: not available



CASS SCREW
MACHINE PRODUCTS

On December 9, 2015, **Heartland Equity Partners LLC** ("Heartland Equity") purchased **Cass Screw Machine Products Company**

("CSMP"). Founded in 1945 and located in Brooklyn Center, Minnesota, CSMP is a manufacturer of precision machined components for OEM customers in the Midwest and across the United States. The company's product range encompasses a diverse range of parts including externally-threaded fasteners and specialty bushings. A family-owned company, CSMP employs a total of 126 people. Founded in 2014 and located in Eau Claire, Wisconsin, Heartland Equity is a private equity firm which focuses on making majority / control investments in manufacturing and value-added distribution companies in the upper Midwestern United States. The purchase of CSMP is the first equity investment completed by Heartland Equity (since its inception).

Purchase price: not available

DISTRIBUTOR NEWS

Perkins Machine is proud to announce the hiring of Specialty Sales to help promote the company's products. Specialty Sales is a leading Manufacturers Representative Organization and has been servicing commercial, industrial, electronics and aerospace fastener distributors and manufacturers throughout California, Arizona, and Nevada for over 24 years.

Our updated products list includes a broad range of standard MS, NAS and AN hardware items in addition to customer specials, and made-to-print components.

Perkins Machine Company was established in 1942 by Ed Perkins and was under his operation until purchased by Nick Perkins in 1977.

In 2013, Perkins was purchased by partner and 30-year employee Robert Boulette. Perkins continues to manufacture the finest Mil-Spec Spanner nuts in the industry and has expanded its products to additional MS NAS and AN Nuts. Located in Oxnard, California, Perkins Machine is a family owned and operated manufacturer.

For more information, contact Perkins Machine at 1559 Pine Street, Oxnard, CA 93030. Tel: 805-487-8780 or Fax: 805-483-2158. Send them an email to sales@perkinsmachine.com or alternatively visit them online at www.perkinsmachine.com.

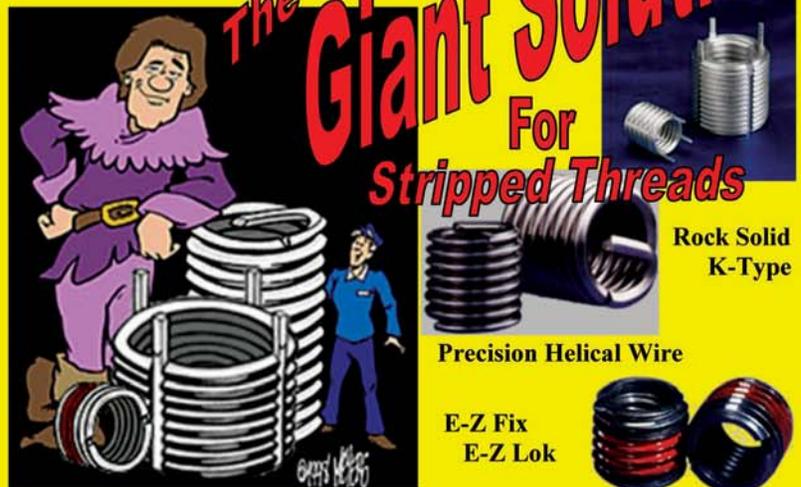
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RICHARD HAGAN FASTENER COMPANY ACQUISITIONS COMPLETED DURING THE SECOND HALF OF 2015 *from page 174*

On December 31, 2015, an **Investor Group** led by the existing Director of Sales & Marketing purchased **Mungo Befestigungstechnik AG** (“Mungo”). Founded in 1968

and located in Olten, Switzerland, Mungo is a designer, manufacturer and distributor of metal and plastic fasteners (such as anchors, screws and through-bolts) for concrete and stone construction applications. The company also designs and distributes epoxies, adhesives, drill bits and cutting tools, all of which are specifically designed for concrete and stone applications. All products are marketed under the Mungo brand name, with Mungo being the short / slang name for a mongoose. Mungo has sales offices in Germany, Italy, United Arab Emirates (UAE), China, India and the United States and more than 70% of net sales are generated outside of Switzerland. The seller of Mungo was its founder and CEO, Arnold Schefer. The buyers of Mungo were Olivier Annaheim (now the CEO) and two other individual investors.

Purchase price: not available.



On December 31, 2015, **CELO S.A.** (“CELO Group”) purchased **Trident Fasteners Inc.** A privately-owned company located in Grand Rapids, Michigan, Trident Fasteners manufactures cold headed, externally threaded fasteners for the automotive, transportation, furniture, appliance and construction markets. The company produces a broad range of screw and bolt types in diameters from 4-40 to 7/8 inch. Trident Fasteners employs a total of 40 people. Founded in 1963 and headquartered in Barcelona, Spain, CELO Group is a manufacturer and distributor of screws and anchors for construction and general industrial applications. The company operates three manufacturing plants in Spain, Germany and China, along with five distribution warehouses in France, Hungary, Poland, Turkey and Mexico. A family-owned company, CELO Group employs a total of 250 people worldwide (before the Trident Fasteners acquisition).

Purchase price: not available 

RICHARD HAGAN

MAFDA MAFDA ANNUAL REP SYMPOSIUM 2015 *from page 166*

Ralph Barone of RAB Components was next to present, represented by L.S. Johnson Associates. RAB is a niche supplier of high quality electronic hardware and fastener products. With contacts throughout the world, they are poised to match your product request(s) with world class, highly competitive manufacturers. Upon awarding RAB your order, Ralph provided assurance that his logistics and frequent inbound air receipts would guarantee timely receipt of quality products meeting your every expectation.

Rounding out the evening's activities was a presentation given by Michael Smith for Screws Industries, represented in the MAFDA region by Michael Smith and Associates. Screws Industries is a leading manufacturer and importer of special screws, SEMS fasteners, and other related components. Their domestic manufacturing capabilities include cold heading from #2 diameter through

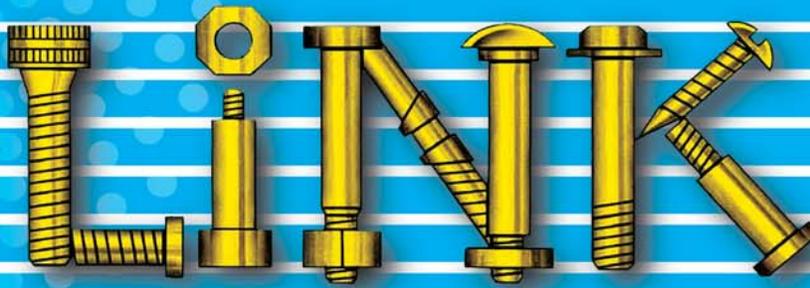
5/8", up to 6" in length. Mike mentioned that Screws Industries specializes in all ferrous and non-ferrous metals, and offers a myriad of secondary capabilities and product finishes. A diverse manufacturing platform, importing capabilities, and a friendly staff all lead to a company very worth engaging. Give them a call, you will be glad you did.

MAFDA 2016 Event Schedule

The MAFDA Board is still finalizing the calendar for 2016 with more exciting and informative events. Look for firm dates and more information coming soon!

- **Educational Series Event**
- **Golf Outing and Scholarship Award**
- **Rep Symposium**
- **Holiday Party 2016** 

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Lucien G. Canton, CEM is a consultant specializing in preparing managers to lead better in crisis by understanding the human factors often overlooked in crisis planning. A popular speaker and lecturer, he is the author of the best-selling *Emergency Management: Concepts and Strategies for Effective Programs*. For more information, please visit www.lucienanton.com, or email Info@lucienanton.com.

WHY GOOD MANAGERS SOMETIMES MAKE BAD CRISIS LEADERS

You are the manager of a big company and you know your business. Each day, you make important decisions regarding money, policy and strategy. You're in total control. Without warning, you are confronted with a major crisis: an earthquake, a fire or a reputational risk. Now you find yourself uncertain and unsure. You don't know what to do and you realize that everybody is looking to you for guidance - and the decision you are about to make will directly affect the survival of your company.

We see this all the time. Otherwise capable and competent managers appear to self-destruct during crisis, making bad decisions and stumbling in public. Consider the decision by BP to try to "spin" the oil spill crisis and the poor performance of CEO Tony Hayward, for example.

Why do your decision-making skills seem to desert you during a time of crisis? To understand this, we need to take a closer look at what happens during a crisis.

We sometimes forget that, although we are 21st century people, many of our reactions to stress are based on reactions developed in more primitive times—the "fight or flight" response. This means that at the time we are faced with a crisis, our bodies undergo physiological changes that prepare us for a response. Among these are

increased respiration and heart rate, auditory exclusion and tunnel vision. These changes can inhibit our ability to think rationally and limit our decision making capacity. The greater the crisis, the more extreme the reaction.

Response to crisis can be roughly separated into three phases. When confronted with a crisis, the strategy with the highest success rate in prehistoric times was

simply to freeze in place. Even today, the initial reaction of many people to crisis is denial: a failure to recognize or believe a crisis is occurring. This is why so many people appear to be dazed and unresponsive at the scene of an accident.

Once we recognize the crisis, we begin to gather information and consider options for responding. This is where the physiological changes take place and the level of stress becomes a significant factor in our ability to assess the situation. The final phase making a decision and acting on the option we consider most viable.

The problem is that the length of time for these three phases varies based on the individual, the nature of the crisis and the people with whom we interact. Some people never progress past the first phase unless subjected to an outside stimulus. Others move from phase 1 to phase 3 in a matter of seconds.





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SRC now has a company representative in the U.S. to serve our customers. Tony Di Maio is well known in the blind rivet industry and he will assist you in every way he can. We appreciate the opportunity to quote your blind rivet needs. Contact Tony for catalogs.

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MFDA HOLIDAY PARTY - ANOTHER TOYS FOR TOTS SUCCESS

The Holidays began in earnest for the Metropolitan Fastener Distributors Association as over fifty members and family members attended the MFDA's 17th annual Toys for Tots drive on Thursday, December 3rd at the Al Di La Ristorante in East Rutherford NJ. MFDA members donated over 325 toys to the US Marines annual effort. In addition, the MFDA presented the Marines with a check for \$5250. The MFDA has been named a "National Corporate Sponsor" by the US Marine Corps for the last two Toys for Tots drives.

New MFDA president Kellie Nirmaier outlined the boards plans for the 2016 year, highlighted by the annual economic report from ITR economics, along with the return of the MFDA's "Night at the Races" coming in May. New MFDA Members American Pride Fasteners and MF Supply Inc. were introduced to the organization, as well as awarded their membership plaques.

The MFDA also held a Holiday Raffle, gifting everyone a raffle ticket as they arrived. The prize, an Apple TV, went to Anthony Manno of American Pride Fasteners.

Thank You To All Our Donors Who Helped Us Reach Our Goal Of Contributing \$5,250 To Toys For Tots:

American Pride Fasteners

B&B electro-Mechanical Component Distributors, Inc.

BMB Fasteners

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Delores Perfetto
Fastar Inc.
Kanebridge
Bill and Pat Lang



Michael Asaro
McCormick Assoc. Inc.
Mutual Screw
ND Industries
P&R Fasteners
Gregg & Theresa Platt
Kenneth Platt
Brittany Platt
RAW Products
RW Rundle Associates
Sesco Industries
Stelfast
Vogelsang

A special thank you to BMB Fasteners, Inc. for transporting the toys to the Marines drop off center the next morning. Last, but not least thank you very much to our Toys for Tots Committee who organized the event: Rob Rundle/R.W. Rundle Assoc., Andrew Licht/Fastbolt, and Jason Vanderhee/Star Stainless Screw.

2016 MFDA Calendar

April 21st	ITR Economic Update
May 20th	Night at the Races
June 16th	Scholarship Awards Dinner
Sept. 18th	21st Annual Golf Outing
Sept. 19th	17th Table Top Show
Oct. 20th	Murder Mystery Dinner
Dec. 8th	Holiday Party 

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MFDA's 17th ANNUAL TOYS FOR TOTS DRIVE EAST RUTHERFORD, NJ - DECEMBER 3, 2015



The key to success lies in the identification of options in the second phase. Managers are trained to use a standard problem-solving model that works extremely well in day-to-day business: we define a problem, gather information on the problem, consider alternatives, decide on an alternative and implement it. The problem is that this model does not work during a crisis.

A crisis is characterized by ambiguity and conflicting information. There are usually severe time constraints and very high stakes. Using a structured decision-making model may, in fact, lead to a certain paralysis as the decision-maker attempts to gather more information and keeps putting off making a final decision. Couple a complex problem with inadequate time for analysis, add in the physiological changes induced by stress, and it becomes apparent why so many managers make bad decisions.

Crisis requires a more intuitive decision-making process. Research into military and emergency services' decision-making shows that leaders reacting to crisis rely on pattern recognition rather than a structured decision making process. That is, they unconsciously attempt to find a correlation between the current problem and their past experience. Once a match is found, the decision-maker runs a quick mental simulation to see if it actually fits the current problem, makes any necessary adjustments, and acts. This process happens extremely fast and the decision-maker may not even be conscious of it, often claiming that they acted on a hunch or a feeling.

Recognizing that decision-making in a crisis is different from day to day decision-making is the first step to successful crisis leadership. Once this is understood, it is possible to increase the amount of available patterns through three ways:

[1] Direct Experience

While there is truly no substitute for actual

experience, crises have a way of involving the people least equipped to handle them. The crisis for many will be an once-in-a-lifetime event. However, remember that we are considering patterns, not identical situations, so experience gained in one situation could be applicable to a different one.

[2] Learning From The Experience Of Others

There are numerous case histories of organizations that have successfully survived crisis. There is even more literature on those that did not. Research demonstrates that reading accounts of other crises and the decisions made during them is almost as effective as gaining direct experience. Reading articles in business magazines, reviewing case studies and after action reports, and viewing documentaries all can increase the patterns available for recall. This is why so many military officers study historical campaigns.

[3] Simulations

Simulations or exercises combine the best of both worlds. They can be based on hypothetical scenarios or actual scenarios found in after action reports or articles. In addition, they can provide direct experience to participants, allowing them to become familiar with the physiological changes brought on by stress. Even something as simple as a short discussion-based exercise can provide additional pattern sets to decision-makers.

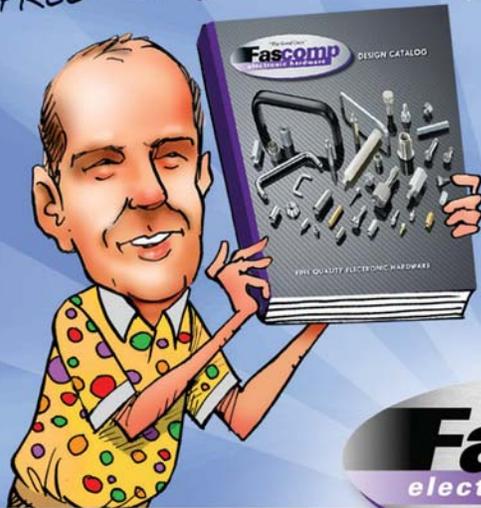
Conclusion

Decision making during a crisis is not the same as decision making for routine business. It requires a shift from a structured decision making model to a more intuitive one. Recognizing that decisions must be made using this intuitive process and preparing yourself to use it is the best way to prevent a leadership failure during a crisis.

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DISTRIBUTOR NEWS

Falcon Fastening Solutions, Inc., a cost-reduction specialist for original equipment manufacturers (OEMs) using fasteners and production components in high volume, is pleased to announce that they have appointed Charles Debbout as the Director of Sales.



Falcon Fastening Solutions, Inc. is a privately-owned industrial supplier of fasteners and other class C production components used in high-volume manufacturing assembly. Falcon specializes in customized supply chain solutions that support lean principles in manufacturing to reduce cost and improve efficiency for its customers. In recent years, Falcon added two customer-based branches in the Carolinas and acquired Kentucky-based C&M Solutions, now Falcon Fastening Solutions, Inc. of Louisville, KY.

To learn more about Falcon Fastening Solutions, Inc., contact them at 1-800-438-0332, email info@falconfastening.com or visit their website at www.falconfastening.com.

DISTRIBUTOR NEWS

Trinity Hardware Headquarters welcomes back Brad Schulte as Vice President of Operations Engineering/Quality. Brad's extensive engineering background from manufacturing through factory floor is a great addition to our team. He has a Bachelor of Industrial Engineering from Iowa State University and an MBA from St. Ambrose University. Brad has a small farm in Burlington and raises Siberian Huskies. In this position, Brad will direct Trinity service center operations as well as oversee Engineering and Quality compliance and development.

Trinity Hardware Headquarters, a subsidiary of Trinity Logistics Corp in Davenport Iowa, provides local and regional distributors the tools to provide customers in their area world class goods and services in support of manufacturers and end users of all types.

Trinity has over 36,000 line items including #3 and #7 plow bolts. We are "delivering exceptional value with every customer experience."

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DISTRIBUTOR NEWS

Registration is open for **National Association of Wholesaler Distributors (NAW)**'s 2016 Distribution Program for Rising Stars, June 13–17, at The Ohio State University (OSU) in Columbus, Ohio.

Wholesaler-distributors will save \$200 when they register now during the early-bird discount period. Additional special discounts apply to companies that send groups. More details are at <http://www.naw.org/risingstars16>.

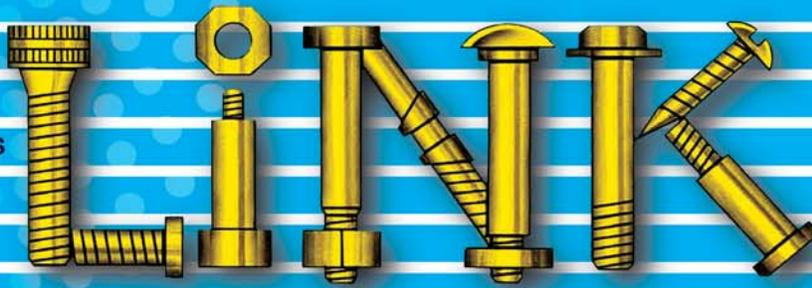
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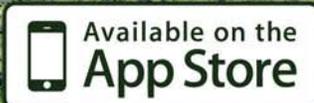
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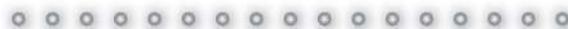
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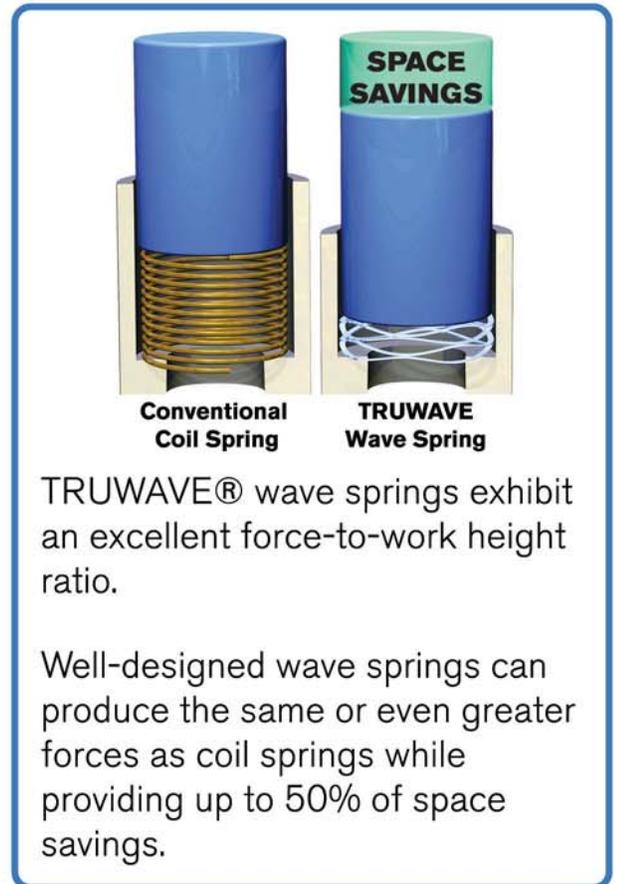
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