



Clingmakers

2019 ISSUE 162

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WORDS FROM THE PRESIDENT

Dear AWRF Members,

It is hard to believe that we are approaching the end of my 2019 term year. The Association's theme of making AWRF the association of choice has been a huge success thanks to a dedicated team of board members, wonderful business partners, amazing speakers and presentations and, most importantly, our membership.

At the end of October, I will hand over the reins to our incoming President, Brett Woodland of Yarbrough Cable - A Certex Company. Brett's support and leadership this past year has been a tremendous help to the association and me. Based on Brett's enthusiasm and commitment to this association I know 2020 will be another exciting year for AWRF.

We will be introducing some new members to the board while others will be continuing their term.

I cannot thank the board of directors enough for their hard work in handling all of the challenges that we faced throughout this year. Our new format and meeting structure were a huge success which will continue to pay dividends for years to come. It is with this entire board and their contributions to the association, which makes the AWRF what it is today.

It has been an honor, a privilege, and a pleasure working alongside these hardworking, dedicated, and talented members of the 2019 Board of Directors:
You all made my job easy!!!

I want to thank both the board and membership for selecting me to serve as President for the 2019 term year. It is always with a bit of sadness that one has to say goodbye to a position and the people who made that possible.

This is an amazing association with such intelligent and wonderful members; and to be lucky enough to have served as your President, will be one of the most rewarding endeavors I have been given the

Continued on page 73

cableworks
INC.

Nicole Parkerson

58 Highland Drive • Putnam, CT. 06260
860-634-7119
nicole@cableworksusa.com



AWRF CALENDAR

2019

October 27 - 30 AWRF General Meeting
San Diego Westin Gaslamp Quarter
San Diego, CA

2020

January 22 - 23 Technical Committee Meeting
Courtyard by Marriott
Downtown Phoenix, AZ

January 23 - 24 Board of Directors Meeting
Courtyard by Marriott
Downtown Phoenix, AZ

January 28 - 29 ASME B30 Committee
New Orleans, LA, Hotel TBD

April 19 - 22 AWRF General Meeting
Boca Raton Resort and Spa
(Waldorf Astoria)
Boca Raton, FL

May 19 - 20 ASME B30 Committee
St. Louis, MO, Hotel TBD

July 15-16 Technical Committee Meeting
Location and Hotel TBD

July 16-17 Board of Directors Meeting
Location and Hotel TBD

September 22 - 23 ASME B30 Committee
Phoenix, AZ, Hotel TBD

October 4 - 7 AWRF General Meeting and P.I.E.
Sheraton Denver Downtown
Denver, CO

2021

April 25 - 28 AWRF General Meeting
45th Anniversary
Grand Wailea (Waldorf Astoria)
Maui, HI

September 26 - 29 AWRF General Meeting
Omni Nashville
Nashville, TN

Head Safety and Protective Gear Firm turns 100

By Peter Hildebrandt

San Francisco's world-famous Golden Gate Bridge has provided a frame for the city by the bay since 1937. But perhaps less well known is the fact that there at the opening and throughout construction was the PPE (personal protective equipment) company that started a trend. The E.D. Bullard Company ("Bullard") was an important part of making the bridge worksite a hardhat-designated area. Bullard remains onsite to this day, supplying hard hats and respiratory protection to present bridge workers, and supplying the world with all sorts of critical PPE.

The E.D. Bullard Company was founded by Edward Dickinson Bullard in 1898 in San Francisco, CA, where the firm sold carbide lamps and mining equipment to gold and copper miners. The miners used to wear a soft derby, similar to a baseball cap, according to Edward D. "Jed" Bullard, the Company's Owner/Chairman and the great-grandson of the founder.

After the founder's son, Edward W. Bullard (1899-1963), returned from World War I, he used his experiences with "Doughboy" army helmets in the design of protective headgear for miners and then the entire construction industry. E.W. Bullard's original 1919 Hard Boiled® Hat was manufactured out of steamed canvas, glue, a leather brim, and black paint and included a suspension device. It was considered the first "hard hat," which revolutionized construction and mine worker safety.

"The company is 121 years old – but it was 100 years back that my great-grandfather invented the hardhat in 1919," explains Wells Bullard, CEO of the Bullard Company. "His hat, crafted from steamed canvas, with a leather brim, and with shellac and black paint, was a fairly radical safety strategy at the time. "The process of steaming the hat was also referred to as hard-boiling. This procedure made the hat very rigid but at the same time rather flexible."

That model lasted until the 1940s when they started to make the hats out of aluminum. The 1950s saw

the crafting of hats from plastic. "We do use leather in some of our products, but have gotten away from canvas, obviously," adds Bullard. "And now we use plastic for the shell, very lightweight but also needing to stay on workers' heads because they're often in very hazardous environments as well."

Keeping the hat on the head only occurs if the hat is very comfortable, therefore lightweight materials must be used. Balanced parts and ease of use come into play in hat design too. The ratchet knob on the back of the hat allows users to adjust their hats so it stays securely on their heads. Different plastics are used for that feature.

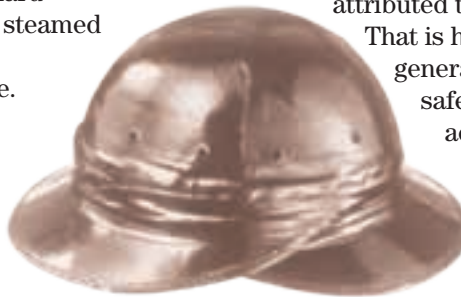
Hardhat and face protection are now big items manufactured by Bullard; breathing protection using respirators is part of their lineup. "We supply to a lot of painters," adds Bullard. "And we're big, as well, in working with those using abrasive blasters, preparing surfaces for painting. It's an awesome responsibility to be protecting people's breathing zones. Respirators can be used in power painting and pharmaceutical manufacture.

"I guess much of our success over the years may be attributed to how we watch and listen to our customers. That is how we've remained relevant for over five generations and this way; we try to understand what safety concerns that they're facing. Our vision is to advance human safety and maintaining productive lives through innovative solutions. To do that you need to understand what dangers your – our – customers, or clients, are facing."

During the Great Depression years, the Golden Gate Bridge construction site was America's first designated "Hard Hat Area." The project's chief engineer, Joseph B.

Strauss, shared a vision with Bullard that the bridge construction site could be a safer environment for the worker. Falling rivets, which could cause serious injury, were a grave concern, so Bullard transformed the mining helmet into a durable industrial hard hat.

The project faced a second problem with the steel coming by train from Bethlehem, Pennsylvania.



Edward W. Bullard invents the Hard Boiled® Hat to protect miners from falling objects.

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The steel had oxidized and needed to be sandblasted before being painted. Bullard designed a simple sandblast respirator helmet, which consisted of a hard hat with a bag over it. There was a window in front to see through, and fresh air was pumped into it.

Bullard hard hats, and respiratory protection equipment, protects workers around the world with innovative safety products (including hard hats, respiratory protection, fire and rescue helmets, and thermal imaging cameras). Bullard's worldwide headquarters; from which its products are designed, engineered, manufactured, and marketed, is in Cynthiana, Kentucky. The Company is family-owned, and the fifth generation (great-great granddaughter of the founder) Wells Bullard, is now Bullard's CEO.

"One of the things I'm the most proud of is the fact that we were a safety company before safety was on everyone's mind," says Bullard. "Our company was worried about safety in 1898, working to protect workers in hazardous environments even before it was mandatory. "Joseph Strauss didn't have to have hard hats on his bridge project; he didn't have to think that way in terms of protecting his workers. But he believed in safety and, in partnering with my great-grandfather and using Bullard's safety equipment, protected his workers. That is a great story."

Wells Bullard, Bullard's CEO



America's first designated "Hard Hat Area" was the construction of San Francisco's Golden Gate Bridge, where workers wore Bullard Hard Hats.

Though the Golden Gate Bridge project was not the first to use hardhats onsite, it was the first to require them and to be designated a hard hat area. After the use of canvas and aluminum, in the 1940s hardhats came to be made from fiberglass. In the 1950s were the first plastic hard hats. In the 1960s and 1970s plastics became better and this material was commonplace for use in the hats. OSHA regulations went into place in 1971 with more coming online throughout the rest of the decade.

Besides hard hats and supplied-air respirators, Bullard manufactures fire and rescue helmets and powered air-purifying respirators. In 1998, Bullard added a new product line: thermal imaging cameras. Bullard's Thermal Imaging Cameras help firefighters find victims, identify hot spots, and locate exits by allowing them to "see through smoke" with infrared technology. Durability, comfort, safety, quality and innovation are hallmarks of every Bullard product line. After operating for more than a century, Bullard is committed to excellence in the eyes of our customers and proud to produce products that are widely known among users to be the "best in class."

After hard hats made from aluminum and fiberglass, plastic became the standard material used in their construction. Bullard was one of the first manufacturers to inject thermoplastic into a mold to produce a hard hat. In 1982, the standard hard hat changed again. The director of safety at Bechtel Corporation, one of Bullard's major clients, felt that hard hats didn't have the proper suspension for field work. In response, Bullard introduced a revolutionary new industrial helmet, marking the beginning of a new era in head protection safety and standards.

The new design incorporated a non-slip ratchet-suspension with a knob in the back for simple sizing. Within the industry, the hat became known as the "3000 R." The 3000 R was produced from polyethylene plastic, making it lightweight, durable, easy to mold and non-



A major problem the bridge project faced was falling rivets that could cause serious injury to the bridge's workers. The Bullard Hard Hat protected workers from the dangers they faced.

conductive to electricity. The plastic was treated with an ultra-violet inhibitor which helped the hats weather the outdoor environment.

Bullard redesigned the 3000R and introduced the C30 presenting a significant advancement in worker comfort. Enhanced with an upgraded suspension system, the C30 incorporates easy-lock snaps for simple installation, an improved FlexGear® for easy height adjustment, and an enhanced brow pad. Offering the most advanced comfort in the market, the C30 has become known as today's standard yellow hard hat.

Unprecedented changes have occurred in the last ten years. "A great deal of our knowledge comes from designing firefighter helmets," says Bullard. "We've been able to apply research on applied energy absorption to the industrial setting. "From that knowledge, the Advent® and Vector evolved. At 25 ounces (709g) the Advent is half the weight of conventional firefighter helmets

and is, in fact, the same weight as many climbing helmets. The Advent is the only protective helmet designed specifically for emergency response services. The compact design is unique. "Not having a rear brim improves freedom of movement both in and out of emergency vehicles and confined spaces," adds Bullard. "A crown pad and a soft, replaceable, foam-backed vinyl brow pad provide extra comfort. It costs less than half the price of conventional fire helmets, and can be equipped with a variety of accessories, including face shields, ear/neck protectors, hearing protectors and attachments for lamps."

The Vector is the off shoot of the Advent. "The Vector provides impact protection for the top, front, back and side of the head," adds Bullard. "It uses a full inner shock liner to absorb impacts."

The Advent can come with a brow pad, comfortable suspension, built-in goggle strap and retaining slots. The Vector, along with the Advent, became the first caps to meet the newest ANSI standard for industrial head protection.

After gathering input from end-users in the field, Bullard designed the vented hard hat known as the S62. "The standard complaint we heard about hard hats was that they're too hot," says Bullard. "With this in mind, we went to work and came up with a hat that will help keep workers cool. This hat features a vented shell; the S62 allows air to flow inside the hard hat, keeping the user cool and comfortable while providing quality protection."

In 1972, the Company moved its production operations from Sausalito, California, to Cynthiana, Kentucky, for improved transportation costs and a more accessible workforce. Within 20 years the Company headquarters moved to Kentucky as well. Bullard is proud to manufacture right here in the U.S.A. and is a global exporter of safety equipment. Bullard – still a global leader in personal protective equipment – announced its plans for a year-long celebration to honor the 100th anniversary of the Company's invention of the hard hat.

The hard hat is one of the most recognized safety products in the world and is responsible for saving thousands of lives during the last 100 years.



“We are proud of the role Bullard has played in revolutionizing the safety industry,” says Bullard. “Our vision to advance human safety to enable long, healthy, productive lives through innovative solutions is our commitment to every customer who chooses a Bullard product. A huge thank you to our most valued customers, employees, distributors, and suppliers for supporting us throughout the years and in the future.”

The Company is growing and recently added the Bullard Center in Lexington, Kentucky, where research and development, new product development, marketing, and global shared resources collaborate to develop the next generation of Bullard products and services. Bullard has offices in Singapore and Germany, as well, to service customers around the world. Bullard remains a global leader in personal protective equipment and systems designed to help save lives.

The 1890s were not a time we recall as years in which the focus was on safety, benefits or rights for workers. But with its founding in 1898, Bullard pioneered the protection of workers in the nascent areas of Industrial Health and Safety as well as work-related emergencies. In the ensuing decades, though preceding construction of the Golden Gate Bridge, there was some local area debate about the wisdom of a building a bridge at the Golden Gate Strait – especially from the area’s local ferry boat operators. But, the use of hard hats at this challenging work site, and countless others ever since, has probably never been questioned. Head protection has always been an idea whose time has come.

Bullard planned activities throughout the year to celebrate its centennial anniversary of the invention of the hard hat. On Saturday, January 12, 2019, the company broke a Guinness World Record during halftime of the University of Kentucky vs. Vanderbilt basketball game, supplying 10,000 hard hats to fans attending the UK/

Vanderbilt game to break the record for the largest gathering of people wearing safety helmets at an event. A Guinness World Record representative attended the game to verify the record-breaking event. Nearly 7,500 of those in attendance wore Bullard Hardhats. This event achieved the distinction of having the most people wearing the hardhat at a single event and it was a great way to help the nearby community have an awareness of the company’s presence – as well as being focused on the importance of worker safety as well, according to Bullard.

The firm had always been in California before their move, in 1970, to Kentucky. “This move to Kentucky enabled us to be closer to more of our customers and to take advantage of the fact that both FedEx and UPS are located in the Blue Grass State too,” adds Bullard. “Our factory, built in Kentucky in 1993, pushed us to move our headquarters there as well. All engineering and senior leadership moved to Cynthiana – a bit northeast of Lexington and south of Cincinnati – in 1993.”

The plant now employs more than 200, people who quickly realized there were lots of opportunities for career growth with the firm. Longstanding employees now help to leverage automation and technology in concert with employees and the job, according to Wells Bullard. “New technology is not, in fact, any kind of threat to employment opportunities, but a chance to construct products more efficiently and of better quality. “At the same we eliminate ergonomic challenges to increase capacity and then to redeploy our capital to increase value-added functions throughout the organization. We are lucky to have longtime employees – such as one woman now celebrating her 46th anniversary with Bullard and a half dozen people still working with us who’ve not retired. These individuals are in our 40-Year-Club. We also have generations of family talent working at our plants worldwide.”



Edward W. Bullard redesigned the Hard Boiled® mining helmet into a durable industrial hard hat for workers constructing the Golden Gate Bridge.

Daughters-in-law, aunts, uncles, and a number of families with some three generations of workers with Bullard are among those employed by the personal safety equipment firm. “We do not lay people off for robots,” explains Bullard. “But we do work with people to identify their skills and add a lot of value to the Bullard Company at the same time. Recently we participated in a trade show in Orlando. And, we are global too, with our European headquarters in Germany as well as salespeople all over the world.”



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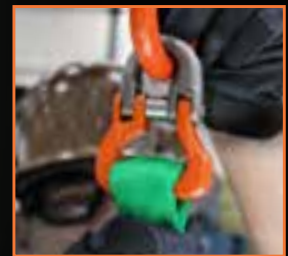
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The Government Affairs Committee

By: J. Barry Epperson
General Counsel and
Chairman of the
Government Affairs Committee



*NOTE: New address for J. Barry Epperson; 4512 South Atlanta Avenue;
Tulsa, OK 74105 (Phone: 918.640.5773 or 918.633.4065)*

TRADE TENSIONS

Tariffs trade war and peace, Forward backward wait and cease

CHINA

Presidents Trump and Xi met privately at the G-20 summit in Osaka, Japan in June at which time they agreed to resume trade negotiations. Senior officials from each country followed up by telephone conference during the week of July 8th.

On July 30th, US Trade Representative, Robert Lighthizer and Treasury Secretary, Steven Mnuchin arrived in Shanghai at the invitation of the Beijing government, to sit once again with China's senior negotiator, Liu He. The face off was not expected to yield the type of broad pact which President Trump has demanded. Following dinner on July 30th and a four hour conference the next day, the first face-to-face talks, since they floundered two months earlier, concluded. Each side described the discussions as productive and scheduled a continuation for September.

China's current strategy seems to favor taking baby steps. Although they have committed to purchasing more US agricultural products, no specifics have been tendered. The Chinese economy has felt the pinch of tariffs, but some of their officials believe that it has reached the bottom and therefore they feel that they can afford to generally slow-walk US trade discussions. So, are they risking President Trump's tweeted threats that if he wins a second election, "the deal that they get will be much tougher"? For now the Chinese trade delegation is looking for real signals that US companies will be allowed to resume sales of components to Huawei Technologies. Meanwhile China's manufacturing community recorded an acceleration in July, sparking a more demonstrative nationalism as a prelude to the celebration of the 70th anniversary of the Communist party takeover on October 1st.

The main sticking points for the US are intellectual property protection, forced transfer of technology and better marketing opportunities for US companies in China. President Xi seeks a no-tariff landscape with the US. In a gesture of cooperation, President Trump stated at the Osaka Summit on June 29th that the US would consider putting aside plans for a US tariff on \$300B worth of additional Chinese imports if genuine negotiations resumed.

In the interim, China has diverted many supply chains to Vietnam to avoid US tariffs. At the same time many US companies in China are moving production to Vietnam for the same reason.

As one can imagine, numerous illegal schemes have also been devised to evade US tariffs. One such artifice, allegedly costing the US \$2B in tariffs, was unsealed during the last week in July. The indictment accuses Liu Zhongwang of conspiring to smuggle aluminum into the US via his giant aluminum company, Zhongwang Holdings, Inc. beginning in 2008 by way of ports in Los Angeles and Mexico. In one of the largest tariff related cases ever, an arrest warrant has been issued for 55 year-old "Uncle Liu" over behavior that could carry a maximum prison sentence of 465 years. The grand jury indictment alleges that through shell companies he shipped 2.2 million pallets of finished aluminum products (not on the tariff list) under the guise of pallets of falsely labeled and declared unfinished aluminum material which is not subject to duty. Mr. Liu has denied involvement.

Meanwhile, China has pursued closer ties to Russia and has also secured the rights to a naval base in Cambodia while the US has resumed naval exercises in the South China Sea.

On July 18th, the Wall Street Journal published a lead article entitled "US-China Trade Negotiations Hit a Roadblock over Huawei." By way of mitigation, Mr. Trump stated on July 23rd that he would agree to "timely licensing decisions" that would allow companies to resume sales to Huawei on products not related to security concerns.

The Shanghai meeting opened with a rather scaled back agenda, limited to such topics as intellectual property protections for the US, abandonment of Chinese state business subsidies and the removal of US tariffs on Chinese imports. Notwithstanding the pale optimism about the





Shanghai meeting during the week prior to these talks on July 29th, President Trump diverted the conversation to the World Trade Organization (WTO) by denouncing the global rule waivers that give special breaks to nations that declare themselves “developing countries,” naming China, Turkey, Mexico, the United Arab Emirates and Qatar as mislabeled, China was admitted to the WTO in 2001 on the theory that the rule waivers would ease China’s transition from a state run economy to a market oriented system.

Regarding the uprising in Hong Kong, the Trump administration has instructed its negotiators to offer controlled responses to antigovernment demonstrations—all in the interest of maintaining a favorable environment for reaching a trade deal. In June Vice President Pence cancelled a speech on China which would have excoriated human rights violations by Beijing. Concurrently, US congressional activists offered a bill reaffirming American commitment to democracy, human rights and the rule of law at a time when “these freedoms and Hong Kong’s autonomy are being eroded.”

In spite of the fragility of the Sino/US trade discussions, Mr. Trump has doubled down on the evils of the nuclear arms race, ordering his administration to prepare to promote arms control agreements with Russia and China. However, according to the Stockholm International Peace Research Institute, China has fewer nuclear warheads (290) than France (300), while the US and Russian have 90% of the world’s nuclear weapons (12,000 plus). Thus the critics and China are saying that such a three-way treaty would mean either a massive reductions for the US and Russia or a dramatic increase for China. We note that global progress with denuclearization has been made since the mid-sixties. Due to some astute decision making, the number of nuclear warheads in the world has been reduced from about 65,000 during the peak of the Cold War to 13,865 at the beginning of 2019. In contrast, however, the US expressed its intent to test a new missile in light of the expiration of the US/Russia Nuclear Forces intermediate-range treaty (INF) on August 2nd. The bilateral long-range nuclear weapons pact between these two countries expires in 2021.

In an expression of dissatisfaction with the Shanghai talks, President Trump, on August 1st, announced a tariff escalation to encompass essentially all Chinese



shipments to the US. Such action adds \$300B worth of goods to \$250B already in place. China’s yuan then weakened to almost 7 per dollar, their symbolic low. Apart from anticipated retaliation, China had previously fallen to third place behind Mexico and China in ranking among the US’s top trading partners. According to information released on August 2nd, imports from China declined by 12% while exports to China dropped 19%. All but one of President Trump’s top trade advisors oppose the strategy underlying the additional tariff threats.

United States-Mexico-Canada Agreement

On June 18th, the Mexican Senate confirmed the new improved NAFTA (USMCA) as the final step in their approval process. In Canada, both the governing liberal party and conservative minority party have expressed their intent to ratify the Agreement.

Here in the US, on June 13th, Speaker Pelosi appointed nine Democrats to a Trade Working Group to address the party’s concerns with the pact. To promote acceptance, US Trade Representative, Robert Lighthizer met with this group on June 25th and subsequently convened with the entire Democratic Caucus on June 26th. Since that time, he and his team have met repeatedly with House members to iron out their concerns. In the Senate, the Finance Committee held a very positive hearing on July 30th, featuring agriculture, the auto industry and small business interests.

Among other improvements, the USMCA modernizes outdated elements of the original NAFTA, offers better

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protections for intellectual property, provides new export opportunities for US businesses and farmers and ultimately eliminates tariff barriers between Canada, the US and Mexico. It was therefore disturbing when Mexico's conservative Finance Minister (with a PhD in economics from the University of Wisconsin) resigned in mid-July over the country's loose management of its finances. At the same time, on the positive side, Mexican President Orbrador is in the process of expanding petroleum production to more companies in the private sector, theoretically opening the door to more US and Canadian participation.

US support for the Agreement is high. On July 23rd, AWRP joined with a plethora of other trade organizations and companies in a letter to the US Congress. Citing statistic emphasizing the history and significance of trade relations within North America, the letter emphasizes that 12 million American jobs depend on trade with Canada and Mexico. The comprehensive Agreement covers country of origin rules, labor provisions, mandatory agricultural access, intellectual property protections and digital trade. It is subject to review every six years and sunsets in sixteen years. The presidents of the three countries signed the pact in November and in May of this year the US struck a deal to end the US tariffs on Canada and Mexico. Three-way cooperation is currently high as we go to press in mid-August.

European Union

The newly nominated leaders of the EU favor a robust trans-Atlantic trade policy, but remain dedicated to defending European interests.

On July 2nd, the German Defense Minister, Ursula von der Leyen, was nominated to serve as the first female President of the European Commission (EC). She knows how Washington works and has sided with President Trump in the past, advocating more defense spending by Germany. On July 16th, Ms. von der Leyen was confirmed by the European Parliament by a vote of 383 to 327. When she takes office on November 1st, she will oversee trade negotiations and antitrust matters.

By way of bilateral trade agreements with European countries, a British delegation was dispatched to Washington the week of July 8th, to discuss a prospective commercial treaty after BREXIT. Concurrently, the EU is preparing for a no-deal BREXIT.

Meanwhile, the unsettled trade relationship between the US and China has negatively impacted European exports. Moreover, foreign investment in American businesses has also declined, costing the US high-quality jobs. For example, foreign direct investment in multinational companies located in the US declined from \$486B in 2017 to \$292B in 2018. The average compensation in these multinational companies was \$81,230 which is 26.3% higher than the average annual compensation in the US private sector.

Dealing with a conglomerate of so many culturally diverse countries is problematic at best and that is what Mr. Trump favors bilateral agreements—for better understanding and better control. As the US Trade Representative works to secure an agricultural trade deal with Japan, the administration is backing a pact with the EU which would increase duty-free beef by 46%.

The wheels of global trade turn slowly, sometimes backing up and often grinding to a temporary stop in the vacuum of détente, AWRP members have much at stake. The Association's Government Affairs Committee is on constant vigil to protect the rights of the many lifting and rigging businesses who depend on us to look out for their interests.





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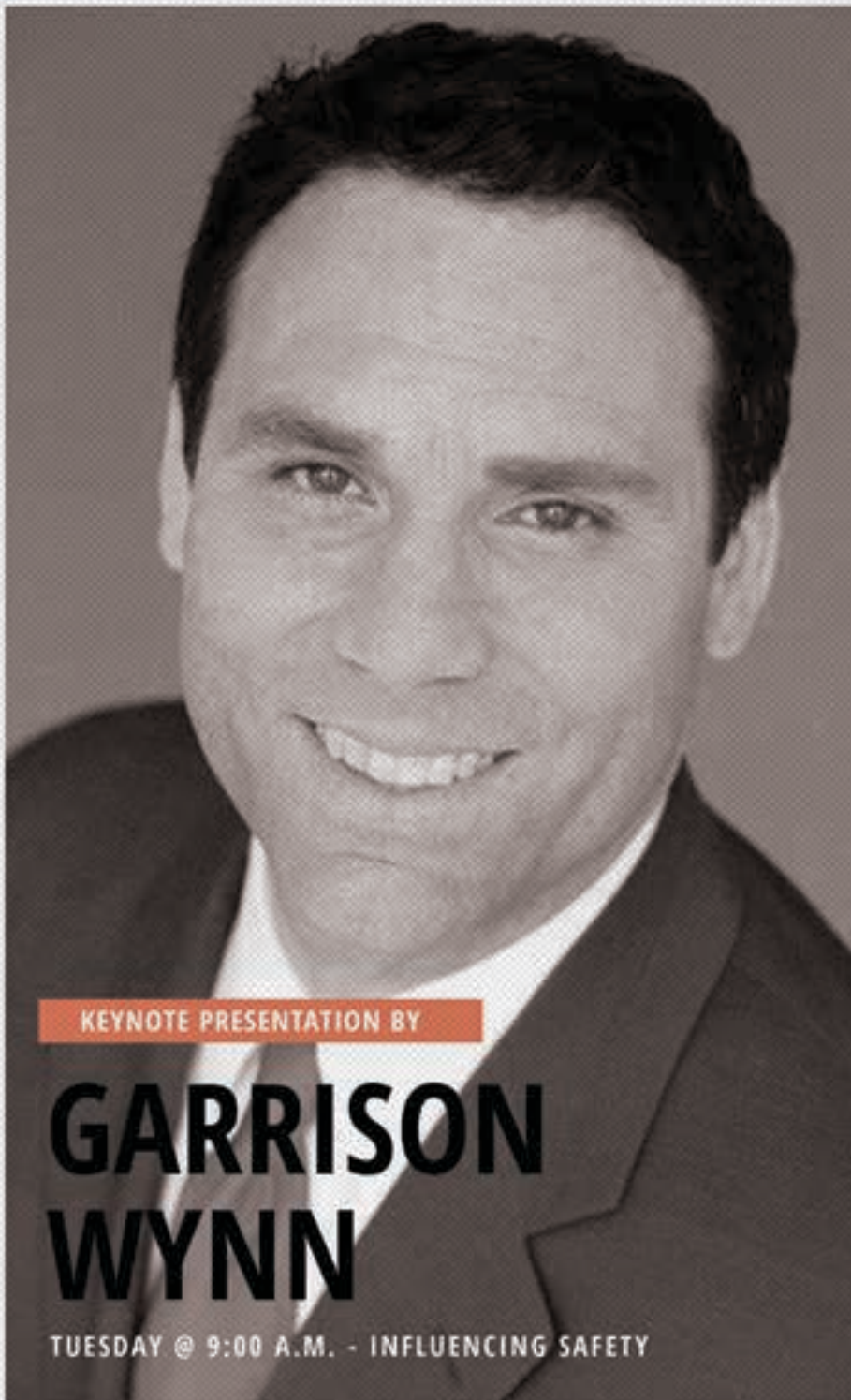
AWRF BANQUET @

USS MIDWAY

29
OCTOBER

MUSEUM EXCLUSIVE TO AWRF

DOORS OPEN AT 6:30 PM



KEYNOTE PRESENTATION BY

**GARRISON
WYNN**

TUESDAY @ 9:00 A.M. - INFLUENCING SAFETY



NETWORKING



EDUCATION

TECHNICAL PRESENTATIONS
& BREAKOUT SESSIONS

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2019 AWRP Fall General Meeting San Diego, CA

Schedule of Speakers & Presentations

Monday – October 28th, 2019 Industry Technical Presentations

- 7:00 a.m. Networking Breakfast & Committee Reports
- 7:30 a.m. John Murphy – US Chamber of Commerce –
Trade Policy Update from Washington
- 8:30 a.m. Knut Buschmann – Uniropo Limited –
Aluminum Loop Back Terminations
- 9:30 a.m. Bradley Closson – CRAFT Forensic Services – *A Layman's
Perspective of Product Liability Lawsuit Preparation*
- 10:30 a.m. AWRP Website UPDATE

Tuesday – October 29th, 2019 Breakout Sessions

- 7:00 a.m. Networking Breakfast
- 8:00 a.m. Safety Plaque Awards & Committee Reports
- 9:00 a.m. Garrison Wynn



- 10:15 a.m. – 11:05 a.m. – Session 1
- 11:15 a.m. – 12:05 a.m. – Session 2
- 12:15 p.m. – 1:05 p.m. – Session 3

	Plaza Room	Santa Fe	Sierra
10:15 a.m. – 11:05 a.m.	Be a Millennial Magnet Jeff Butler	How Stars are Born Jeff Hiller	AWRF - LEEA Ross Moloney, Brett Woodland, Knut Buschmann
11:15 a.m. – 12:05 p.m.	Multigenerational Management Jeff Butler	Leading by the Numbers Jeff Hiller	AWRF - LEEA Ross Moloney, Brett Woodland, Knut Buschmann
12:15 p.m. – 1:05 p.m.	Authentic Marketing Jeff Butler	Control the Clock Jeff Hiller	AWRF – Technical Binder Update Don Pellow

John G. Murphy

Senior Vice President for International Policy • U.S. Chamber of Commerce

John G. Murphy directs the U.S. Chamber's advocacy relating to international trade and investment policy. Since joining the Chamber in 1999, Murphy has led its successful campaigns to win congressional passage of trade agreements with a dozen nations, including Colombia, Panama, and South Korea in 2011, as well as Trade Promotion Authority in 2015. Murphy also plays a key role in the Chamber's advocacy for international business priorities before Congress, the administration, foreign governments, and the World Trade Organization.

From 2001 to 2008, Murphy served as the Chamber's Vice President for Western Hemisphere Affairs and as Executive Vice President of the Association of American Chambers of Commerce in Latin America (AACCLA). In 2008, he received AACCLA's Eagle of the Americas award, which is given annually to the individual who has "done the most to advance our mission of increased trade and investment between the United States and Latin America."

In the 1990s, Murphy worked at the International Republican Institute (IRI), a nonprofit organization dedicated to the promotion of democracy overseas, and at the Center for International Private Enterprise (CIPE), which champions market-oriented economic reform around the world. From 1992 to 1993, he was the first Western lecturer in economics at the National University of Economics in Czechoslovakia.

Murphy graduated Phi Beta Kappa from the University of Colorado at Boulder, and he received his Master of Science degree from the School of Foreign Service at Georgetown University in Washington, D.C. He serves on the boards of the Global Business Dialogue, the U.S. Global Leadership Coalition, and the Washington International Trade Foundation. He is fluent in Spanish.



Knut Buschmann

Knut Buschmann is President and General Manager of Uniropo Ltd., located in Mississauga, Ontario, Canada with fabrication locations in Montreal, Mississauga, and Edmonton. He is the former President of AWRP (Associated Wire Rope Fabricators), and continues to be a member of the AWRP Technical Committee where he is currently developing Test Method Procedures for the rigging industry. He also is a former President and current Member the Board of the OIPEEC, the International Organization for the Study of Endurance of Rope (a European Science Organization) and a member of the CI-Cordage Institute's Management Board and it's Technical Committee. He also is a Member of the ASME B30.30 Committee "Rope" and serves on the Canadian Standards Committee CSA Z-248 Tower Crane and is an Associate on the CSA Z-150 Mobile Crane Committee.

Knut is a native of Germany and for over 29 years lives in Port Credit near Toronto. For over 40 years he has worked in the wire rope and rigging industry.

Knut is married to his wife Gerda. Both are passionate sailors on Lake Ontario and Knut regularly tours the US Southwest with his motorbike.



Brad Closson

Brad Closson is CRAFT Forensic Services, a corporation which focuses on material handling accident investigation and incident reconstruction. He has a Bachelor of Science Degree from the U.S. Naval Academy with post graduate work in several engineering disciplines and over 40 years of practical and managerial experience with material handling equipment and the design, planning and execution of complex material movement operations.

Mr. Closson is a member of the ANSI B30 Committee on Cranes and Rigging, a member of the United State Technical Advisory Groups (TAG-96 and 8) for land and water based cranes, to the International Standards Organization (ISO), a past Vice-President of Safety Codes and Standards for the American Society of Mechanical Engineers (ASME), a past Chairman and Vice-Chairman of the B30 Committee and the current Chairman of the B30.32 Volume on Unmanned Aircraft used to support B30 Equipment. He has been accredited by Federal OSHA, California OSHA, Washington OSHA and Nevada OSHA to inspect and certify lifting equipment and by Nevada OSHA to train crane operators.

Mr. Closson has over 30 years participating in material handling standard development, over 30 years of participating in various state code development activities, 25 years of inspecting material handling equipment to applicable regulations and standards and has spent the last 25 years investigating material handling accidents and accomplishing tasks as an expert witness in the support of the defendants, plaintiffs and governments identified in a litigated event.



Garrison Wynn

Keynote Speaker

With talents that established him as a Fortune 500 leader and professional stand-up comedian, Garrison Wynn, CSP, fuses comic timing and research to show how anyone can help create a culture of safety. He is authentic – a guy who's been there. Wynn is a chemical plant explosion survivor with a background in industrial instrumentation. For 20 years, he has given keynote presentations to clients such as Exxon, BASF, the National Safety Council, Behavioral Science and Technology (BST), the NFL, and NASA. In his teens, he debuted the world's first video gaming system with baseball legend Hank Aaron; and as a young man, Wynn spent six years touring comedy clubs with the top names in the business before going on to create industrial products still being sold in 30 countries.



Jeff Butler

In the 1990s, Jeff grew up in a Silicon Valley household where both of his parents built and sold software companies.

After graduating from the UC Berkeley with a degree in Computer Science he spent his time working in some of Silicon Valley's fastest charging startups.

After a short time working as an employee, he realized that he wanted to follow his parents footsteps and started his journey down the road of entrepreneurship. By the age of 27 Jeff had written two books, founded three companies, given two TED talks, and managed to get zero speeding tickets but countless parking tickets. Including two towing incidents.

With a fascination of psychology, Jeff focuses his efforts on how to bridge differences in the workplace so people work in an environment they are excited about. He has addressed companies like Google, Amazon, LinkedIn, and lot of others, but listing them all out can get pretty boring pretty fast.



Jeff Hiller

Jeff Hiller is a corporate trainer and keynote speaker for Top 100's in a wide variety of industries from hospitality and healthcare to energy and manufacturing. He delivers high energy, interactive programs based on his real world experience as a marketer, sales manager, exec, vendor and customer. Jeff has been VP at \$1B ad agency Leo Burnett, earning 7 national EFFIE Awards. Marketing/Creative Director for the Houston Rockets; VP Marketing for Four Hands, a 3-time Inc 500 Fastest Growing company; a high end retail chain owner and for the last nine years, Director of L & D and content chief for JB Training Solutions. His clients include Marriott, Phillips 66, Allianz, Eli Lilly, XPO Logistics and the Omnicom, IPG and Publicis agency groups. Jeff graduated with honors from Dartmouth College and lives in Austin, TX.



Don Pellow

Chair of the Associated Wire Rope Fabricators Technical Committee

Native of Kansas City • Graduated from the University of Kansas with B.S. in Engineering Physic • Employed at Armco Steel – Union Wire Rope Division from 1966-198 • Became Director of Technical Services at Union Wire Rope • In 1988, Union Wire Rope Division was sold to Wire Rope Corp. in St. Joseph, MO, where Don stayed as Manager of Engineering Services until 1994 • In 1994, founded Pellow Engineering Services, Inc. which has three main directives: Litigation Services as Forensic Engineer and Expert Witness in crane accidents and wire rope & sling failures, Engineering Consultant to Bob's Industrial Publications, which is the new owner of Bob's Rigging & Crane Handbooks & Rigging Reference Cards and Training of engineers, crane operators and riggers in construction and industrial settings • Licensed and Registered Professional Engineer in Kansas and Missouri • Member of National Society of Professional Engineers • Member of Kansas City Chamber of Commerce and Hispanic Chamber of Commerce • Member of Kansas City Plaza Rotary Club • Chairman of Technical Committee of the Associated Wire Rope Fabricators Association • Authored many articles and given many presentations on Crane Accidents, Wire Rope and Sling Accidents and Engineering Design & Testing



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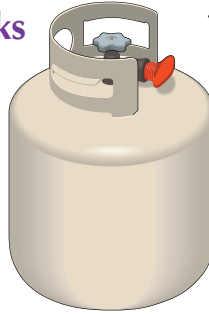
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Proper Storage of Propane Tanks

As follow-up to a prior article in Slingmakers magazine titled Carbon Monoxide - The Silent Killer, the purpose of this article is to discuss hazard recognition and hazard control related to propane gas cylinders. These cylinders are commonly used in conjunction with forklifts and industrial trucks found in a lot of rigging shops.



Documents contained in the Occupational Safety and Health Administration (OSHA) and the National Fire & Protection Association (NFPA) provide a reference point for the insight shared in this article. Specifically, OSHA 1910.110 addresses the storage and handling of liquefied petroleum gasses. The NFPA 58 Liquefied Petroleum Gas Code addresses the storage, handling, transportation, and use of LP-Gas.

Hazard Recognition

- Main risks with propane include explosion and asphyxiation. Although propane gas by itself is odorless, suppliers add a strong smelling chemical to the gas so that you can smell leaks. This smell resembles rotten cabbage.
- Propane gas will explode if ignited.
- Equipment using propane releases carbon monoxide (CO). Carbon monoxide can result in health issues such as headache, dizziness, weakness, clumsiness, nausea, and vomiting.
- Even in small doses, CO can kill you.

Hazard Control

- Although forklifts are permitted to be operated inside buildings, be sure that propane forklifts are tuned according to manufacturer's recommendations. Do not operate them in small areas that lack proper ventilation.
- Proper storage of forklift propane gas cylinders:
 - ♦ Whether indoors or outdoors, storage areas must be located to avoid physical damage, tampering, or excessive temperature rise.
 - ♦ Relief valves must always be pointed up.
 - ♦ Valve caps must be on all cylinders – whether full or empty.

- ♦ Outdoor storage in a proper cage is best.
 - Ensure readily ignitable materials such as weeds, pallets, and wood are kept at least 10 feet away.
 - Based on the quantity stored, be far enough away from buildings according to OSHA 1910.110(f)(6)(i)(c)
 - Storage area must not be accessible to the public
- ♦ If storing indoors
 - The quantity of LP-Gas shall not exceed 300 pounds. Empty cylinders must be counted in this calculation
 - Do not store propane gas cylinders near oxygen cylinders, arcing electrical equipment, open flames, or other sources of ignition.
 - Do not store cylinders near exits, near stairways, or in areas normally used or intended to be used for safe exit.
- Do not park or leave forklifts unattended in areas of possible excessive heat or sources of ignition.
- Always have an ABC fire extinguisher nearby.
- Do not allow propane to saturate clothing.
- Although it may not feel or smell unusual, clothing remains highly flammable for some time after exposure.
- Saturated clothing should be aired outside.
- Never expose skin to liquid propane. It is extremely cold and can cause frostbite or cryogenic burns.
- When forklifts are being maintained or serviced inside a building, the propane tank shutoff valve must be closed except when needed for engine operation.
- Do not drop, throw, roll, or drag a cylinder

As with any workplace danger, it is critical to be aware of causes and prevention of such danger. The goal should be to minimize the risk of an accident occurring. With regard to propane gas cylinders, the suggestion is for you to review current practices with the intent of assuring safe storage, handling, and proper use. In addition, it is imperative to educate and train your employees who are responsible for forklifts and propane gas cylinders – especially those who are around the equipment and use it every day.



Quality
Mike Poroo
SWOS
Houston, TX

mike@swos.net



Health
Celena Moses
Van Beest
Houston, TX

c.moses@vanbeest.com



Safety
Debra Cushman
Cascade Rigging Inc.
Clackamas, Oregon

dcushman@qwestoffice.net



Environmental
Tom Corall
Mazzella Companies
Cleveland, OH

tcorall@mazzellacompanies.com



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AWRF

SCHEDULE

27-30
OCTOBER

REGISTRATION 10/27 @ 10 AM - 4 PM



CURRENT PRESIDENT
NICOLE PARKERSON



INCOMING PRESIDENT
BRETT WOODLAND

SAFETY PLAQUES WILL BE
AWARDED TUESDAY MORNING

AWRF

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SUNDAY – 27 Oct 2019

7:30 – 11:00 a.m. – Board of Directors Meeting – Santa Fe
10:00 – 4:00 p.m. – Registration – California Foyer
5:00 – 5:30 p.m. – First Timer's Reception – Harbor Room
5:30 – 7:00 p.m. – Opening Reception – Garden Terrace

MONDAY – 28 Oct 2019

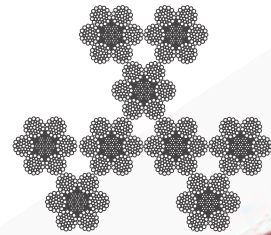
6:00 – 6:45 a.m. – Workout with AWRF (Morning Jog)
7:00 – 7:30 a.m. – Networking Breakfast – California Ballroom
7:30 – 11:00 a.m. – General Business Session – California Ballroom
11:30 a.m. Shotgun Start – Golf Tournament – Meet in Lobby at
10:30 a.m.; Bus departs at 10:45 a.m.
4:00 – 5:00 p.m. – Workout with AWRF (Strength Training) – Santa Fe
6:00 – 7:00 p.m. – Reception – Garden Terrace

TUESDAY – 29 Oct 2019

6:00 – 6:45 a.m. – Workout with AWRF (Morning Jog)
7:00 – 7:30 a.m. – Networking Breakfast – California Ballroom
7:30 – 8:00 a.m. – Safety Plaque Awards/Committee Updates –
California Ballroom
8:00 – 1:05 p.m. – General Business & Breakout Sessions –
California Ballroom/Plaza Room/Santa Fe/Sierra
10:00 – 2:00 p.m. – Tour – Meet in Lobby at 9:45 a.m.;
Bus departs at 10:00 a.m.
1:15 – 1:45 p.m. – Emerging Leaders Focus Group – Sierra
3:00 – 4:00 p.m. – Workout with AWRF (Strength Training) – Santa Fe
5:30 – 6:30 p.m. – Reception – Garden Terrace/SD Ballroom
6:30 – 11:00 p.m. – AWRF Banquet – USS Midway Museum
WEDNESDAY – 30 Oct 2019
10:00 – 2:00 p.m. – San Diego Zoo Tour – Meet in Lobby at 9:30 a.m.
4:30 – 6:00 p.m. – Closing Reception – Garden Terrace

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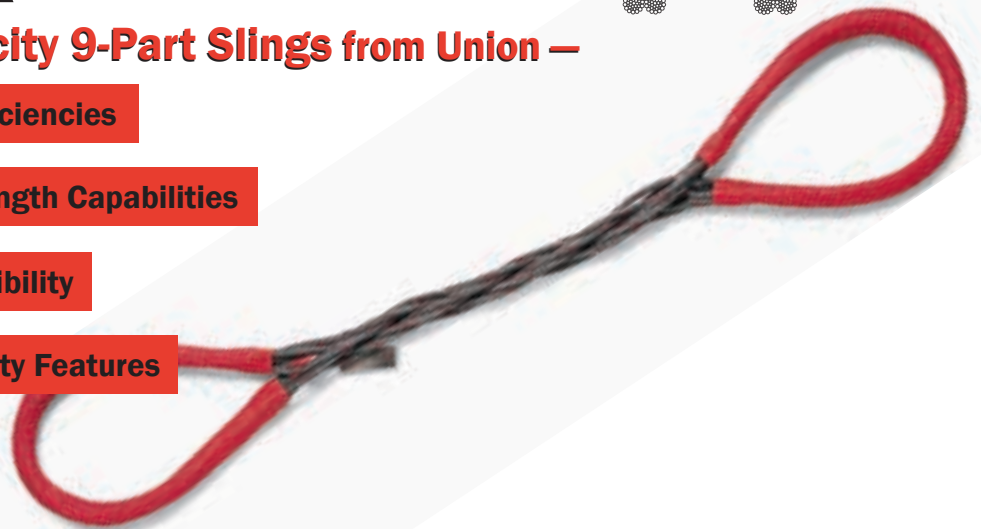
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San Diego
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General Meeting

October 2019

Banquet on USS Midway
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AWRF UPCOMING EVENTS THROUGH 2021

2019

October 27 - 30
AWRF General Meeting
San Diego Westin Gaslamp Quarter
San Diego, CA

Registration is OPEN

Banquet at the USS Midway
visit www.awrf.org

2020

April 19 - 22
AWRF General Meeting
Boca Raton Resort and Spa
(Waldorf Astoria)
Boca Raton, FL

October 4 - 7
AWRF General Meeting and P.L.E.
Sheraton Denver Downtown
Denver, CO

2021

April 25 - 28
AWRF General Meeting
Grand Wailea (Waldorf Astoria)
Maui, HI

September 26 - 29
AWRF General Meeting
Omni Nashville
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2019



25



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Passing Over

The Wire Rope Bridge

Henry St. Pierre



Henry St. Pierre, 84 Worcester -

Henry G. St. Pierre, 84, passed away peacefully surrounded by his loving family on July 22, 2019, at UMass Memorial Healthcare - University Campus. Born in Worcester, Henry was the son of Henry and Beatrice (Lajoie) St. Pierre and lived here his entire life. His son, Henry G. St. Pierre, Jr. passed away in 2017.

He will be lovingly remembered and missed by his wife of 45 years, Linda M. (Erickson) St. Pierre; his daughter, Suzanne M. St. Pierre of Hull; three grandchildren, Amanda (Wilson) Misilo and her husband, Geoffrey of Sterling, Stephanie (Wilson) Swanson and her husband, Christopher of Parrish, Florida and Hilary St. Pierre-Ciferno and her husband, Eric of Columbus, Ohio; a great grandson, Chase Swanson; four siblings,

Suzanne St. Pierre-Sevareid of Worcester, Edward St. Pierre and his wife, Marianne of Mashpee, Nanette St. Pierre Locke and her husband, Roger of Provincetown and Richard St. Pierre and his wife, Barbara of West Boylston; a brother in law, Jack Erickson and his wife Cyndy of Worcester; a mother in law, Doris Cusson of Worcester; and many nieces and nephews who were very special to him.

Henry was a graduate of St. John's High School, class of 1954, attended Worcester Jr, Holy Cross College and was a veteran of the US Army Reserve. While in high school and college, Henry worked for his father at St. Pierre Chain Corp in Worcester, upon his father's death in 1966, St. Pierre Manufacturing Corporation was formed by Henry and his brothers to carry on the family tradition. Henry served as president for over 50 years.

He will be remembered for his love of life, his wildly entertaining sense of humor and for his generous heart. "Go breathe easy, entertain the angels and tend the gardens in heaven. Heaven has gained a very spirited angel".

Passing Over The Wire Rope Bridge

Bill H. Franz



Dear AWRP Member,

It is with immense sadness the AWRP office announces that AWRP Past President, **Bill Franz** has lost his courageous battle with cancer.

One of Bill's greatest joys was playing at the Rock and Roll Hall of Fame. To bring a smile to your tears, here is a link to the video:
<https://youtu.be/F8mSOJjyaxA>

Wilhelm "Bill" H. Franz, 61 of Medina, Ohio joined his parents Hans and Maria (nee Dengiel) Franz and in-laws Robert and Virginia Maas in heaven on August 16, 2019. He was born on August 12, 1958 in Cleveland, Ohio. Bill retired as a Vice President of Marketing from Mazzella Companies; but will be remembered most by his family for his love of traveling, music, sports, and enjoying the company of his loved ones. Beloved husband of Lynn (nee Maas) Franz of 38 years; loving father of Ashley (Mark) Smidt, Adam (Katilin) Franz, and Amanda (Jason) Lewis; and cherished grandfather of Braydon, Wilhelm, Cora, Maximus, and Colton. Contributions may be made in Bill's memory to Salvation Army, <https://give.salvationarmyusa.org>; The Cleveland Browns Foundation, <https://www.mightycause.com/donate/Cleveland-Browns-Foundation>; or Hospice of Western Reserve, 5075 Windfall Road, Medina, OH 44256.



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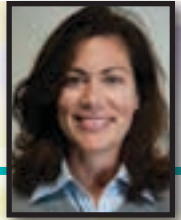
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TECHNICAL COMMITTEE

Mary Brett

Chair of Technical Communications
National Industrial Supply
Troy, Michigan



Technical Committee Meeting Highlights

The AWRP Technical Committee (TC) met July 17-18, 2019 in Savannah, GA. Following are some of the highlights from the meeting.

The upcoming AWRP general meeting is scheduled for October 27-30, 2019 at the Westin San Diego Gaslamp Quarter in San Diego, California. At that meeting the TC will be giving presentations; one of which will be Aluminum Loop Back Splices presented by Knut Buschmann. Billy Strawter of Milo Detroit will demo new areas of the AWRP Website and show membership testimonial videos. To see a list of all the scheduled presentations please go to www.awrp.org/events.

ASME

B30.30 Ropes has been distributed to the Regular membership. This standard is intended for manufacturers, owners, employers, users and others concerned with the construction, selection, installation, attachment, testing, inspection, maintenance, repair, use, and replacement of wire rope, hybrid rope, synthetic fiber rope, and rope-lifting components used in conjunction with equipment addressed in the Volumes of the B30 Standard. There are also great pictures of damaged wire rope.

B30.9 Slings has been updated and will be distributed to Regular members for Technical binders in the 3rd quarter.

B30.26 Rigging Hardware updated edition coming out in 2020. AWRP will purchase and distribute to members in mid to late 2020.

Recommended Practices and Guidelines (RP&G) and Recommended Practices (RP)

There are six RP&Gs and one RP which have been distributed to the membership, and are available on the AWRP website in the members only section; **Swagger Safety Guide, Test Bed Safety Guide, Chain Slings, Wire Rope Slings, Manual Lever & Manual Overhead & Electric Hoist, Lifting Magnets, and Sling Shop.**

Two of these RP&Gs (**Swagger Safety Guide** and **Wire Rope Slings**) will be updated and available for redistribution later this year or early 2020. Reaffirmed RP&Gs **Test Bed Safety Guide** and **Chain Slings** will be available soon as well.

A new **RP&G on Terminations for Wire Rope** is being developed and will be available in late 2020 or early 2021.

RP: Sling Shop is the basis for a third, updated, quality survey which will come out to the membership

later in 2019. The data is confidential and helps the TC determine presentations that target areas for which members need help. ***Please respond to this survey when it comes out!***

Sub-Committee Highlights

(Note: not all sub-committees are covered in this update).

Web Sling accepted the task of testing web slings for shrinkage due to fluorescent UV & water to see what/if anything comes of it and then use those results to dictate how/if to pursue it more extensively.

Chain and Chain Sling is progressing with guidance for Chain Markings. Findings will be published late 2019. This sub-committee also accepted task of developing guidelines for proof testing master links.

Below-The-Hook recently produced the Lifting Magnets RP&G.

Load Securement is researching requirements for tie down straps in load securement. Findings will be published in Slingmakers later this year as will be a presentation at a future AWRP General meeting.

Information Resources has worked with a web developer to create a 'sneak peek' of RP&Gs on the website for non-members, i.e. front cover of RPGs and table of contents. A summary of the content and sale of RP&Gs in the future may be a possibility.

AWRP Liaisons

Wire Rope Technical Board (WRTB) is updating Wire Rope User's Manual, due for publication in 2020 or 2021.

Web Sling and Tie Down Association (WSTDA) is working on an update to the WS-2 Operating, Care and Inspection Manual for web slings. Their RS-1 should be approved and published soon. They are beginning the review process of T-1 and developing a standardized test method for the cut resistance testing of sling protection devices.

Next AWRP TC Meeting

The next AWRP TC Meeting will be January 22-23, 2020 at the Courtyard by Marriott Downtown Phoenix. This meeting is open to all members and there is no fee to attend the meeting. Please contact Don Pellow at dpellow@aol.com to let him know if you are interested in attending or sending your shop foreman or CTO.

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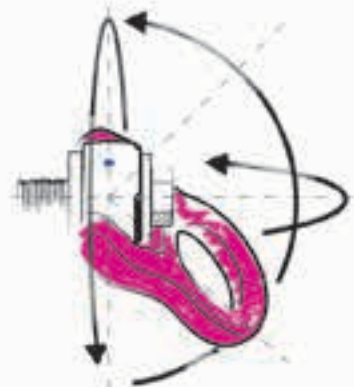
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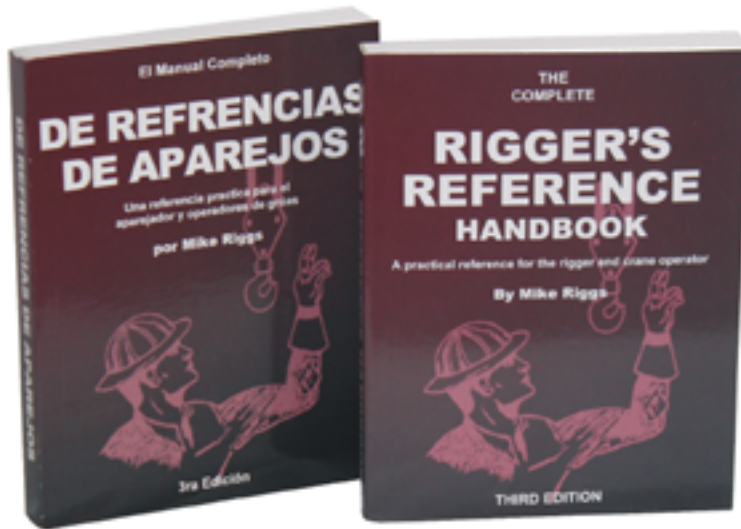


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Cut-off date: October 4th, 2019

Welcome to Riverwalk Golf Club

Monday, October 28th

Located in the heart of San Diego's Mission Valley within minutes of Hotel Circle and area attractions, Riverwalk Golf Club's offers an 18-hole resort style full length par 72 course complimented by a 9 hole (Sunset) course ideally suited for new golfers, beginners, juniors, families and other busy, avid golfers. Along with magnificent golf, superb amenities and outstanding service, Riverwalk Golf Club has earned recognition among San Diego's best, and most fun, golf courses to play. Other amenities include a double sided, night-lit driving range and short game area; golf learning center, offering a variety of golf instructional programs for juniors and adults taught by a talented team of teaching professionals; and a beautiful clubhouse featuring a full-service golf shop, delicious dining.

This San Diego Golf Course boasts: mature stands of palm, oak and eucalyptus trees framing undulating fairways and manicured greens; numerous wetland areas, over 100 bunkers and an array of picturesque water features - including four lakes and the San Diego River - creating both strategic diversity and a visually stunning backdrop for a round of San Diego golf. While challenging for low handicappers, the course offers multiple tees on each hole, ensuring an enjoyable experience for golfers of all abilities.

The Riverwalk Golf Course will challenge you while providing a relaxing, beautiful San Diego day of golf. Test your accuracy with our fairways, water hazards and sand traps; we have everything you need to challenge you and improve your game. Our goal is to provide you with a quality San Diego Golf experience that includes exceptional service and a comfortable atmosphere.



The Tours



Balboa Park Explore the Museums Tuesday, October 29th

San Diego's premier colonial landmark, Balboa Park stretches over 1,400 acres of flower-strewn landscape nestled in the hills of Downtown. This urban park is dotted by an array of intricate and antiquated Spanish architecture housing 85 cultural and recreational organizations, including seventeen museums, is the largest concentration of museums and cultural institutions outside The Mall in Washington, D.C.

Balboa Park's countless wonders include: Museum of Man, Natural History Museum, Reuben H. Fleet Science Center, Museum of Photographic Arts, Mingei International Art Museum, Air & Space Museum, Centro Cultural de la Raza, WorldBeat Center, Japanese Friendship Garden, House of Pacific Relations, Hall of Champions Sports Museum, Model Railroad Museum, Automotive Museum, Veteran's Memorial Center Museum and much more! Transportation and lunch included.

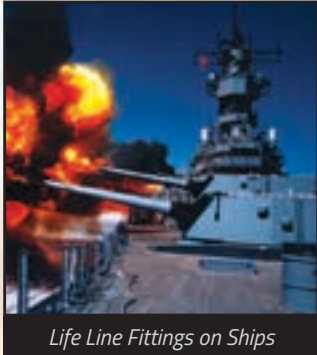
Wonders of Wildlife at the San Diego Zoo Wednesday, October 30th



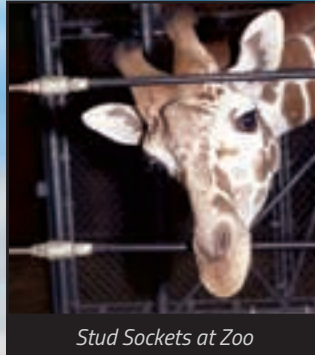
An urban paradise for all ages, the San Diego Zoo is a must-see in Southern California. Spend the day monkeying around in our tropical oasis as you visit amazing habitats for animals such as gorillas, Komodo dragons, tigers, flamingos, mandrills, polar bears, birds of paradise, giant tortoises, elephants, and more. Visit the Australian Outback to see our colony of more than 25 koalas. A stroll through Africa Rocks reveals the animal and plant inhabitants of six iconic African habitats. Shuttle provided.

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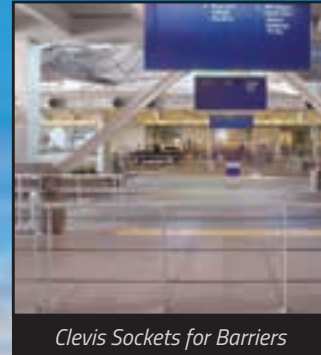
End Fittings and Swivels For Wire & Synthetic Rope



Life Line Fittings on Ships



Stud Sockets at Zoo



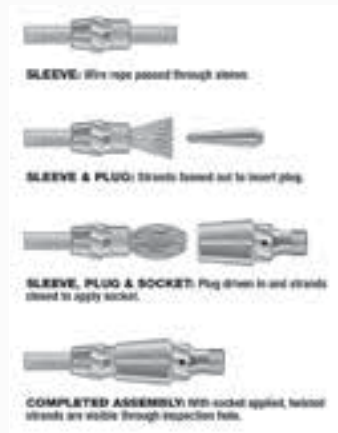
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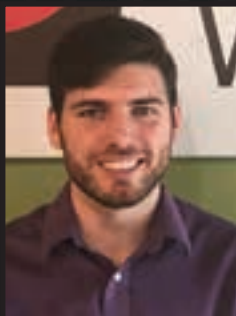
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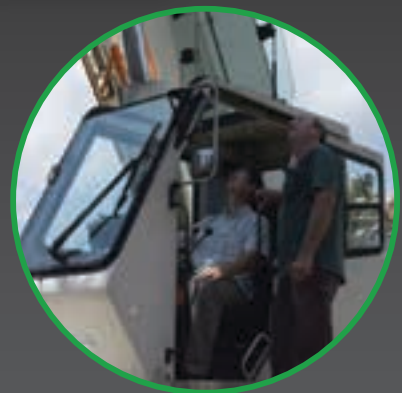


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Crosby donates \$25,000 to Children of Fallen Patriots Foundation

The Crosby Group, LLC, the global leader in lifting, rigging, and material handling hardware has presented a check for \$25,000 to the Children of Fallen Patriots Foundation at the company's warehouse in Arlington, Texas. The donation was raised via sales of its popular wire rope clips.

The Foundation serves to provide college scholarships and educational counseling to military children who have lost a parent in the line of duty. After government programs the average shortfall in college funding for a child of a veteran that was killed or wounded in service is \$25,000. Supported by its loyal distributors, Crosby donated a portion of each clip sale to the honorable cause.

With a U.S. manufacturing footprint that includes plants in Texas, Oklahoma, and Arkansas, Crosby's involvement with the country's military stretches back to the company's earliest days, supplying shackles, wire rope clips and other hardware for all branches of the military. Today, more than 50 Veterans work in the company's facilities. Crosby is an active supporter of charitable causes, demonstrated by partnerships with United Way and disaster relief campaigns.

Robert Desel, Crosby chief commercial officer, said: "When we first learned about the Children of Fallen Patriots Foundation from retired General David Petraeus in 2018, and the important role they play in the lives of military families, we knew we wanted to back this cause."

From April through June, 2019, Crosby donated a portion of every U.S. wire rope clip sale. Supported by dealers, end users and other industry representatives, many of whom were in attendance as the check was presented, the profile of the campaign was raised further by a weekly photo competition where end users submitted an image of an application featuring a wire rope clip.

"The Crosby Rigging for the Troops campaign was a tremendous success," said Desel. "We sincerely appreciate our valued business partners and users of Crosby products for showing their support by choosing Crosby clips and helping build awareness of this important cause through social media."



Tyler Overcash, Fallen Patriots; and Robert Desel, Crosby with a commemorative plaque.

Crosby paid tribute to campaign sponsors in three military-themed tiers—General: ALP Industries Inc.; Bishop Lifting Products Inc.; Certified Slings & Supply; Crane Hot Line (media sponsor); Holloway Houston Inc.; Hanes Supply Inc.; John Sakash Company Inc.; Kennedy Wire Rope & Sling Company; Mazzella Companies; Nelson Wire Rope; Peak Trading Corp.; West Coast Wire Rope & Rigging Inc. Major: Commercial Group Lifting Products; Fulcrum Lifting; Indusco; Industrial Wire Rope Supply Company Inc.; Tri-State Wire Rope. Captain: Brown Perkins Inc.; Gulf Coast Marine Supply; Rockford Rigging Inc.

Approximately 20,000 children have lost an active duty parent in the military over the last 35 years. Of those, 97% of casualties are men, leaving behind single mothers to care for their families, and 60% report having trouble making ends meet. The foundation said that \$500m is needed nationwide to cover the gap between government assistance and the actual cost of a degree.

Tyler Overcash, development operations coordinator, Fallen Patriots; Alyssa Hill, scholarship administrator, Fallen Patriots; and Robert Desel, CCO, Crosby.



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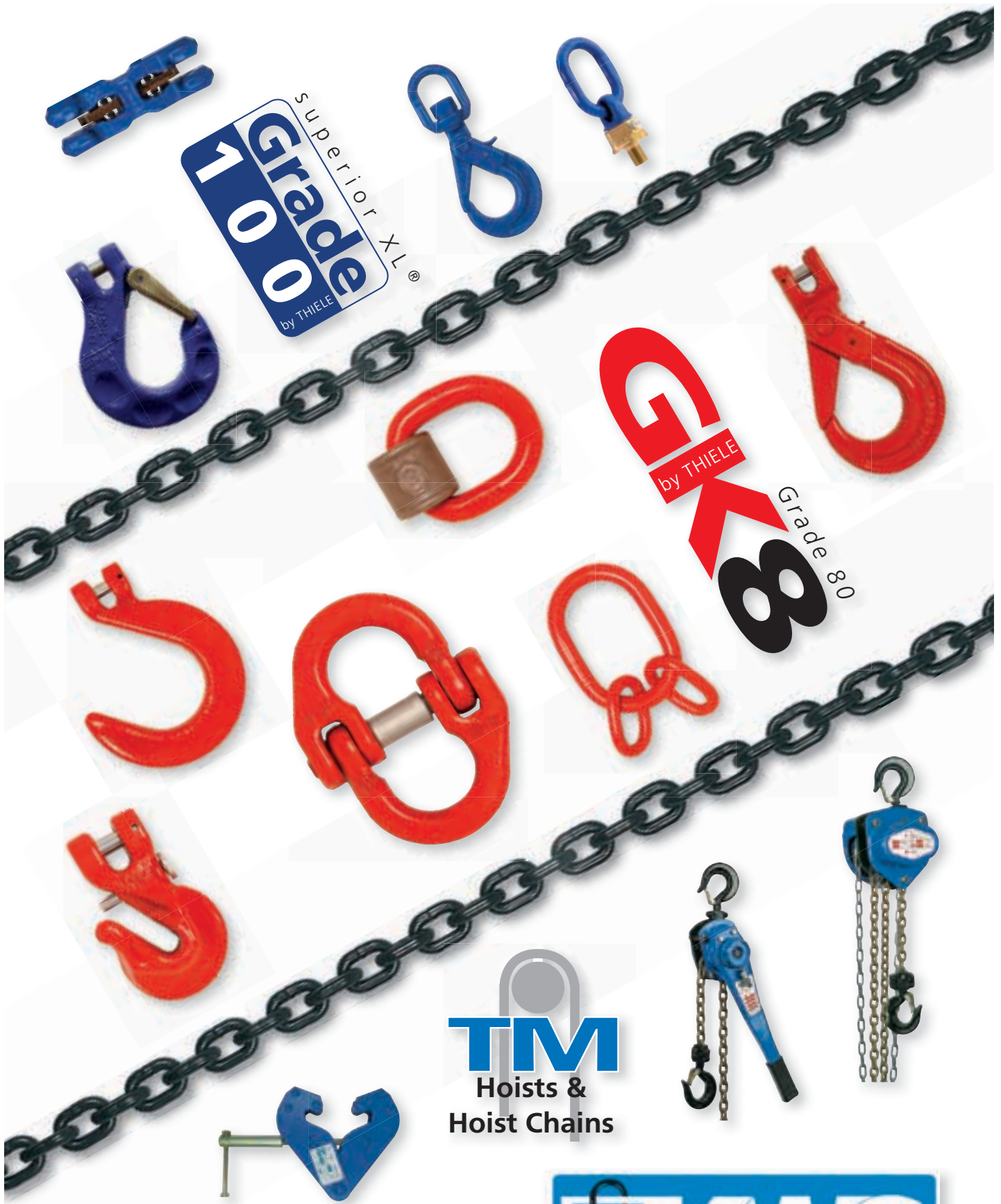
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Proper Succession Planning Increases Value for the Owner

Many business owners do not realize that spending time on different succession planning topics will usually improve the company and the sales price. The following are some of the ideas that increase the value of the company and put more money in your pocket.

We suggest that business owners start thinking about selling the company 3 to 5 years ahead of time. You need this amount of time to get your company ready for the highest price.

I know that your emphasis the last 30 to 40 years has been increasing sales and profits, working with employees, helping customers, and putting out all of the daily fires. For the next 36 months try to remember that you're going to work "on" the company for a couple of hours each month rather than "in" the company.

If you're going to sell your house, you spend time fixing it up. If you're going to sell your car, you're going to spend time washing the outside and cleaning the inside. Now that you're thinking about selling one of your largest assets you need to spend a little bit of time washing the outside and cleaning up the inside.

In the last 36 months try to increase your gross margins 1% per year. Also, try to decrease your expenses 2% per year. This will make the company look much better, and you will get a higher sales price.

Next, clean up all of your financial statements. Any potential buyer is going to ask for your last 2 or 3 years tax returns and financial statements. Make sure that if there are any entries on your financial statement that are not needed, have them removed. Every year we see financial statements from business owners and it will show a loan "from stockholder" or a

loan "to stockholder". When we talk to the owner we find out that those entries are old and those types of loans were paid off years ago, but just never removed from the financial statement. Clean up the balance sheet and the profit and loss statement. Don't leave anything on your financial statement that is not appropriate that will cause the buyer to ask more questions.

Early on, pick your team of advisors that will help you design a blueprint that best fits your corporate sale. On that team you should have a corporate attorney who has worked with many family businesses over the years. Add to your team of advisors an accountant that can help you with minimizing both your corporate tax and personal tax when selling the company. There are many ways to minimize the taxes when selling a company and all of those ideas need to be discussed. The third member of your team should be a financial advisor that can help you with: negotiating the sale of the business, analyzing your net worth, preparing retirement income projections, and helping to protect your net worth in the future.

When you sell your company you will no longer receive a salary and you will stop adding to your net worth. Now your team of advisors needs to help you protect your net worth for the future, estimate annual income and assist you with making financial decisions to protect what you have accumulated. The attorney that you choose charges fees. The accountant that you choose charges fees. And, the financial advisor you choose should also charge fees and not receive commissions. You want to make sure that your team of advisors are independent fiduciaries that only work for you.

Continued on page 73

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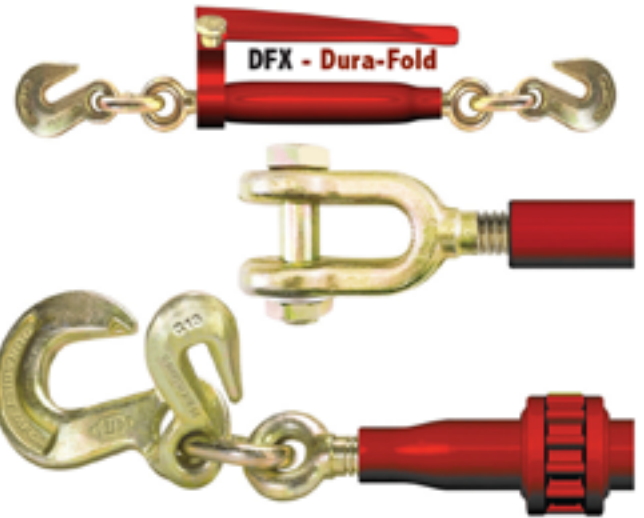
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USA



by Dave Rosenberg,
CPBA/CPDFA, Principal of
Locked On Leadership, LLC

As a former Naval Officer and President of several companies, Dave Rosenberg understands the difficulties of managing tasks and personnel. Now he is on a mission to replace TGI Friday with TGI Monday. Dave is the founder and principal at Locked On Leadership, a consulting firm that focuses on practical tactical leadership skills that yield results. He is a Certified Professional Behavioral and Driving Forces Analyst and has worked with over 60 companies in 13 states arming them to achieve sustained and managed growth.

“What every company can and should have is have a formal, written training syllabus, the more detailed, the better.”

Targeted Employee Training

It's a dark and rainy night, I am soaked and alone in a sea of strangers. I walk up the steps of an antebellum building, complete with Ionic columns from a bygone age. The beauty of the architecture is lost on me as I enter into the maelstrom of noise and chaos that is Aviation Officer's Candidate School. This is the beginning of 3-years of the ultimate employee training, at a cost in excess of \$1M, before beginning my new job as an Officer in the U.S. Navy. This training makes sense since the cost of failure is huge, well beyond the loss of life of those that may be involved in conflict. The benefit to the military and the country, in general, of this commitment to training is enormous. Likewise, every company and organization would benefit from similar training.

Few companies, of any size, have the resources necessary to provide that kind of employee training but fortunately they don't have to. Many of you reading this are probably thinking “Of course I train my employees”, however I'm not talking about follow me around and let me show you what to do type training. What every company can and should have is have a formal, written training syllabus, the more detailed, the better.

When I took over as VP of Operations at Communications Plus, we had 10 field technicians, 3 inside customer service reps and 2 outside customer service reps. I noticed a problem when we were dispatching technicians for problems that ended up being user error. We had a 1-hour minimum charge for our technician's time. Our customers weren't happy when we billed 1-hour for a 10-minute service call. In response to this problem, I started training our inside customer service reps on

better trouble-shooting techniques so they could identify user errors on the phone and correct them, saving us the service call. To facilitate the employee training, I created a Training Operations and Procedures Standardization manual or TOPS manual for short.

We initially started training only for my customer service reps. However, I quickly expanded the training to include my field service technicians as well. We needed to reduce the number times a technician was dispatched on a non-billable service call. However, our results were staggering and disproportionate to effort.

4 Benefits Employee Training

1. **More consistent customer experience** – before we initiated formal employee training the quality of our customer's experience was dependent on which CSR answered the call. Where a more seasoned CSR might be able to help you over the phone, a less seasoned one would have to dispatch a tech. Technicians did not like going out to fix “user error” problems. Training allowed even the least experienced CSR to quickly identify user errors and provide accurate instructions to the customer on how to achieve whatever it was they were attempting to do.
2. **Better trained customers** – Yes, you read that correctly, by training my CSR's I was also training my customers. Not just because they knew how to use their phone system and called us less (although that was true). Have you ever wondered why all the big fast food chains basically say the same thing at the drive-in window? After giving them your order, they read it back to you. Then they ask if its correct, give you a total cost

(or tell you they will have it at the window) and ask you to pull up. I remember going through the drive through of a regional fast food restaurant, after giving my order the voice on the speaker said “OK”. I just sat there waiting for them to confirm my order, tell me how much it was and asking me to pull up. After a minute of silence, I finally just pulled to the window, not really knowing if they got my order right. There was a long line of cars behind mine. 1 minute a car lost, I wonder how many more orders they could have sold? How many cars saw the line and by-passed them taking their business elsewhere as well). The CSR training included how to answer the phone, how to schedule properly, how to explain billing and warranty policies. Everyone used the same verbiage. Our customers learned what to expect and everything was more efficient.

3. **Compliance with Standards** – One of the reasons I stress written employee training is that it creates de-facto standards. Standards are an excellent, objective way to evaluate the effectiveness of your employees. When I was running Priority Moving, we created such standards. I remember discussing whether or not we should keep one of our Lead Movers with the VP of Operations. He was saying things like “He’s a good guy and customers like him”.

This was true of the customers where he didn’t mess up. I was able to point to the number of times he failed to meet our standards, resulting in unhappy customers. Objectively we knew he wasn’t working, and we got rid of him. (In my Locked On Labor blog, I discuss how holding employees accountable inspires others.)

4. **Reduced Direct Labor cost** – This came about as a result of two different mechanisms. First, greatly reduced the number of hours we dispatched technicians but didn’t charge the client. Our techs were engaged in a higher percentage of billable activities. So, our revenue went up and our direct labor as a percent of revenue went down. Secondly, since we now had objective standards, I was able to hold my technicians accountable to those standards.

1 year after writing the TOPS manual I had reduced the number of technicians from 10 to 6. These were my best 6 technicians. Now, they were more efficient because of the training. We produced the same amount of work as the 10 we had before but much more profitably.

For more articles by Dave Rosenberg visit <https://lockedonleadership.com>



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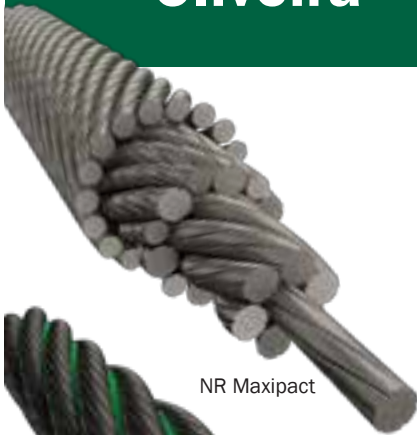
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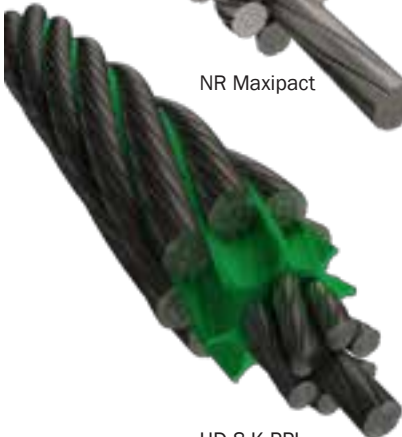
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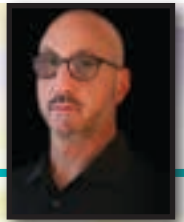
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What it Will Mean to be AWRP/LEEA RP&G Certified

On behalf of your Board of Directors and as a member of the AWRP Technical Committee, it is with great enthusiasm that this article is presented. The Board of Directors has many projects underway, all of which are designed to bring more value to your AWRP membership. This particular project is perhaps the most significant undertaking by this association in decades. Please consider the primary objective of this initiative as you read this: “to add value to being an AWRP member company, and to help AWRP member companies in setting themselves apart in the marketplace”.

As many of you know, we have sent out several Quality surveys over the years in an effort to assist regular members in assessing how they stack up to what is considered “industry best practices” in rigging shop operation. One of the results of this survey has been the creation of the RP&G entitled “Rigging Shop Operation”. If your company has never taken a Quality survey, this is a great year to take it. It will be sent out again following the fall conference in San Diego.

This Quality Survey will now serve as the backbone of a proposed new voluntary level of AWRP membership; by which AWRP member companies can undergo an audit process by a third party partner to the association. The partner we are focusing on is LEEA, The Lifting Equipment Engineers Association. Our goal is to have an affiliation agreement in place with LEEA by the end of 2019. <https://leeaint.com/About-Us>

LEEA is established across the globe as the leading body for all those involved in the lifting industry. The association has played a key role in the field of lifting for over 70 years; from training and standards to the provision of technical advice and the development of examination

and licensing systems. Both the AWRP Board of Directors and the AWRP Technical Committee passed motions at their summer meetings to pursue an affiliation agreement with LEEA for the purpose of this significant initiative.

The many benefits of this new level of membership will include access to LEEA's technical answer center (where technical questions are submitted and typically answered within 48 hours), access to LEEA's technical guidance documents, and most importantly - the ability to market your company with use of a co-branded AWRP/LEEA logo. More details will be presented on this important program in San Diego; with representatives from LEEA in attendance and a separate breakout session on this specific topic.

If you want to learn more, come to San Diego!



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Canadian Modular Building Company Takes No Convincing to Use Modulift's Modular Spreader Beams

New construction methods that are more efficient and cost effective increasingly rely on lifting specialists like Modulift to hoist large prefabricated components into place. Tilt-up is just one of those methods.

It's a building technique where reinforced concrete panels are cast on or off-site then hoisted up and tilted into position. These panels become the load-bearing structural components and eliminate the need for perimeter columns.

That's why when Canadian company, Tilt Wall Ontario won the contract to build a new condo apartment block on the luxury Muskoka Bay Resort, they approached Modulift's local distributor, Equipment Corps for two new modular spreader beams.

The construction company, that specialises in the tilt-up method, had usually relied on basic spreader beams or bars provided by crane companies but on a recent job had come across Modulift's spreader beams and was impressed by their versatility. As a modular building company, it didn't need much persuasion to be convinced of the benefits of a modular product!

The Muskoka Bay Resort is located in Gravenhurst, just north from Toronto and is well-known for its championship 18-hole golf course. Its popularity meant that more luxury accommodation was required, hence the construction of a five storey multi-unit residential condo building with a sixth storey on the three stair towers for access to the roof. The building was constructed entirely with 381 precast tilt-up concrete panels. The panels' width ranged from 1.5m (5ft) to over 18m (60ft) with weights anywhere from one tonne (3,000lb) to 58 tonnes (128,000lb).

Tilt Wall Ontario was keen to use the Modulift spreader beams again so rather than asking the crane company to provide, the project manager, Ken VanCasteren, approached Equipment Corps direct, who supplied a MOD 50 and a MOD 110. They were used to even the load distribution and to facilitate proper angles on the lifting slings and hardware.

Ken VanCasteren said: "We utilised two different sized beams and between the two, they were used for about 80 to 85 per cent of the picks. We did not adjust the lengths of the beams during the lifting process but instead used the two different beam sizes to allow for quicker rigging changes. From the MOD 110, we went down to an eight-point pick for load distribution and on the MOD 50 we were using a four-point lifting set up."

A Leibherr LG 1750 lattice boom mobile crane was used for this project, with the added assistance of a 350T mobile crane to help move some of the concrete panels closer to the LG 1750 for final picking and setting.

Modulift Spreader Beam, preparing for lift



The LG 1750 carefully lifted the panels horizontally to the required height and then tilted them upright into place by sliding the wire rope links through the snatch blocks attached to the spreader beam. The Modulift spreader beams are designed to be particularly stable and trusted for this manoeuvre and are compatible with snatch blocks. The Tilt Wall Ontario team then braced the panels until the permanent structural connections were completed.

Ken VanCasteren added: "It was a pleasure to work with Equipment Corps on this project. When issues or concerns came up regarding the loading and safe working loads of the rigging on some of the heavier lifts, Equipment Corps was quick to respond and review all of the loading calculations to ensure everything was rated properly. The Modulift beams were versatile and easy to get the required spreads needed. The beams assembled easily and were user friendly throughout the project duration."

From construction and oil to mining and steel, Equipment Corps in Ontario provides equipment to many industries across North America – and over the last 30 years has established itself as the leading provider of industrial construction tools and fabrication equipment. It has been a distributor of Modulift products since 2016.

National Sales and Business Development Manager for Equipment Corps, Luke Habza said: "It's been a pleasure working with Ken. Liaising directly with the client has meant that even after the construction started, we were able to provide additional support with the lifting calculations. We embraced the opportunity to provide our technical expertise, because while we are more than happy just to provide lifting equipment, we do know how it works as well. Modulift spreader beams really sell themselves to companies who appreciate high quality products and we were pleased to recommend them for this project."

Harshal Kulkarni, Engineering Manager for Modulift said "The versatility of our products, together with them conforming to the highest level of safety standards, means that our products facilitate not only the lifting capacity required for the lift, but our Modulift range of beams also ensure a sufficient amount of standing time until the permanent construction is completed, demonstrating a prolonged period of load suspension which is paramount for projects like this'.

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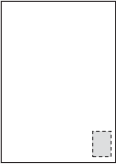
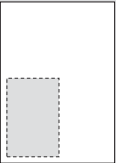


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ISSUE	CLOSING	STREET DATE (See Note Below)
#160	February 21st	March
#161	May 23rd	June
#162	August 15th	September
#163	November 14th	December

Last Issue for 2019

NOTE: Street date is discretionary and may be adjusted to coordinate with OR around an event to provide timely, pertinent information for our readers.

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Communication Drives Employee Retention

Jeff Kortess

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Jeff Kortess is the Founder of Human Asset Management LLC. He has over 25 years experience in HR leadership roles in both plant and headquarters environments. Human Asset Management LLC works with organizations to recruit, retain and develop their people.

Communication is critical in any employee retention strategy. Without effective communication you run the risk that people will not understand what is going on in the organization, the role they play in its success and how, in general the organization is run. These factors all negatively impact an organizations employee retention.

Organizations often struggle with how much information to provide employees. I recommend erring on the side of giving employees too much information. Rarely is the information such that it can be used by competitors to create a competitive advantage...even if competitors do get a hand on it. In fact, I see it in the opposite way. Having informed, engaged employees creates a competitive advantage for your organization. Providing people both the good and the bad is essential. If you shelter them from bad information and they are surprised when action needs to be taken, the trust level between your employees and the organization will suffer. For that reason...provide them both the good and bad.

A well thought out, systematic communications strategy is the best way to effectively drive communication. Don't do it in a haphazard way. Sit down, strategize and develop a well layered approach using multiple types of communication. By doing so, you make sure everyone hears the message multiple times and in different ways. Use the following list and you will cover 95% of what needs to be covered without having some big fancy system that looks great

but wastes time and probably doesn't get through to employees anyway.

- Managers and leaders at all levels need to get out in the cube factory or on the plant floor and start communicating with people daily... you will hear concerns and be able to address them. More often than not, people will bring up concerns when you wander by their work area. At times, they will often tell you even more than you want to hear. As people get to know you, you will build trust that further drives communication.
- Have an open door policy so people come in and ask questions. People will carry the responses back out to their co-workers and spread the word.
- Develop regular postings and updates using email, company intranet or written notices...yes...written notices still exist! Some employees will not pick up on communication in an email but will absorb it in a meeting or in a written letter. Every person has their preferred style of communication. Using multiple methods of communication ensures that people will get the message.
- Hold meetings that provide a consistent message, a forum for ideas and a place to bring up concerns about the functioning of their department and the organization as a whole.
- I actually love meetings...if they are done right! Everyone thinks that when I mention meetings that I am talking about some long drawn out event. Only if you let them be long and drawn out events! They can range from five minutes to an hour depending on what you want to accomplish. Frankly...90% of the meetings that last an hour or more are just people rambling on in

my experience. Keep them short, sweet and to the point. The goal of every meeting should be educating people and generating actions that drive results! Information and education will eliminate fear... and drive understanding of what it takes the business to succeed. All too often employees do not understand the dynamics of the business. Your meetings should be designed to gradually educate people on how their job affects the results of the organization. This will reduce turnover and improve how the business operates as well. Employee retention activities don't exist in a vacuum...they help drive organizational success!

When you get information out and educate your people you will virtually shut down the negative influence of the internal grapevine. By doing so, you eliminate speculation, uncertainty, and self-serving communication. When you do that...you have just significantly reduced several major sources of fear that drives employee turnover. The beautiful thing about this approach.....even if you are only a supervisor or manager...you can do most of these things in your "sphere of influence." So, even if the organization chooses not to do some of these things you can still make an impact on employee retention by communicating effectively with your people.

If you want to have great employee retention, an organization must have an effective communication process. This requires work and a systematic approach. If organizations are not afraid to put in the work and approach communication systematically, they will see a positive impact on their employee retention.



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Caldwell Custom Lifting Device for Cryomodule Assembly

Rockford-based The Caldwell Group Inc. has manufactured a customized lifting device that is being used during assembly of cryomodules at the Fermi National Accelerator Laboratory (Fermilab) in Batavia, in its home state of Illinois, U.S. The project was awarded to Caldwell distributor John Sakash Company Inc., also of Illinois.

The process requires precision assembly apparatus, as Fermilab builds SSR1 cryomodules (sections of modern particle accelerators) for its Proton Improvement Plan-II (PIP-II), an essential upgrade to the Fermilab accelerator complex. The Caldwell system, specified red in color, offers multiple configurations and can be raised and lowered with surgical accuracy by hand-wheel, an operational requirement of the end user.

The centerpiece of the solution, which meets the ASME B30.20 BTH-1 standard, is a 6,000-lb. capacity main beam, while two 1,500-lb. extension beams can be added at either end. All three beams span 371 in. (9,423.4 mm) but it will be adapted to suit various assembly processes. Cryomodules are positioned on a track directly beneath the beam/s and tooling is utilized to accurately position components beneath various lifting points.

Pete Sakash, of John Sakash Company, said: "Fermilab provided very detailed specifications for the lifting device, with the principle challenges for the contractor being low headroom, uneven flooring, and critical stability. Our system provides a ft. or so of adjustability but in use they're only really going to need to utilize about 6 in. of that."

Dan Mongan, special application support, new product development specialist at Caldwell, said: "The project is notable for the accuracy of assembly that we had to accommodate. Fermilab is a facility at the sharpest point of scientific investigation. Using threaded rods, the hand-wheel can position the beams to millimeter accuracy. Only the columns remain rigid as the system provides Sakash's customer with every possible lifting point cryomodule assembly will require."

American Rigging & Millwright Services accepted a scope of work to collect the lifting system from Caldwell and complete installation onsite. Previously, Scott Anderson, its chief operating officer, led a site visit to shoot elevations of the floor compared to the elevation of the floor-mounted track system. Cream



The centerpiece of the device is a 6,000-lb. capacity main beam.

City Scale, also of Illinois, was then tasked with completing load tests utilizing test brackets, slings, and test weights. The process involved turning the hand-wheel to raise all weights off of supports to maximum height, holding them for two minutes, before lowering them down again. Two sizes of test weight—1,000-lb. and 500-lb.—were used to complete three testing procedures.

PIP-II will provide powerful, high-intensity proton beams to the laboratory's experiments. PIP-II will enable the world's most intense neutrino beam and help scientists search for rare particle physics processes. These investigations will require intense beams of protons, which will produce gushers of other neutrinos that scientists can then study in greater detail.

At the heart of the PIP-II accelerator is a technology that provides for a highly efficient way to accelerate particle beams. Superconducting radio-frequency (SRF) cavities make it possible to accelerate intense proton beams to higher energies in relatively short distances. A string comprising several of these cavities nestles in a cryomodule, which bathes them in liquid helium and keeps them at the ultra-cold temperature that is key to their operation and efficiency.

Sakash added: "Physics has always been something of a guilty pleasure of mine so to get an opportunity to help [Fermilab] with this fascinating project was a huge honor. We are proud to be associated with the laboratory and have enjoyed productive conversations recently about providing additional equipment for upcoming material handling challenges."

John Sakash Company and The Caldwell Group are currently working on two additional lifting equipment projects for the Fermi National Accelerator Laboratory.



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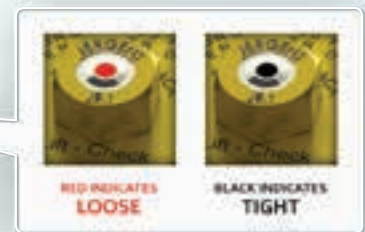
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Press Release



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Dynamic Load Monitoring Ltd (UK) welcomes a Business Development Manager



Jamie Woodcock - Business Development Manager

DLM are pleased to announce a new member of the team, Jamie Woodcock. Jamie will be taking on the role as Business Development Manager and joining our already versatile and growing team. He will be responsible for developing business within the UK and overseas with both our existing and new clients. He will be visiting existing clients over the next few months and also looking to secure new business within the Offshore and Marine Industry amongst others.

Jamie joins DLM with a wealth of experience, previously being the Regional Manager for five years at Northbridge Load Cell Services in Singapore, DLM's exclusive distributor in the region at that time. As such, Jamie has a vast experience offering DLM's customised Load Cell and 'System Solutions' along with their standard product range to the industry. Jamie has over 16 years of experience in the instrumentation industry, working in the Oil & Gas, Offshore, Marine, & Power Gen markets. Jamie has a strong customer focus and his skills include sales negotiation, business development and strategic planning.

With business thriving, DLM has grown in strength from employees and sales, both complimenting each other. As a family run business, we strive for commitment, high quality workmanship and enthusiasm about what we do.

Managing Director, Martin Halford has said "We are very excited to welcome Jamie to our team at DLM. Not only will he bring a tighter focus on customer relationship and quality to our sales team, but also a depth of DLM product knowledge to assist our existing and new clients. Jamie and I worked together previously, very successfully for five years growing DLM's business in Singapore and South East Asia through a Manufacturer / Distributor relationship. We are delighted that he has now come on board to work with us directly at DLM and expand our offerings to the global market."

Jamie added "I am delighted to be working again with DLM and looking forward to this new challenge. Working for DLM directly is an exciting opportunity, with their ability to manufacture fully customised solutions, as well as rapid delivery of standard products; I feel there is huge potential for growth and expansion across all territories. By working with and supporting the current distributors we will be able to develop new relationships around the world. We will grow and provide exciting and successful solutions to both our existing and future customers, across all the markets and industries we serve. "



Press Release



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Peerless Industrial Group, Inc. Introduces Model TB Telescoping Fork Truck Boom

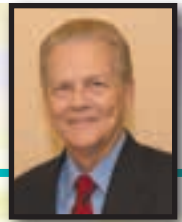
Winona, MN – Peerless Industrial Group, Inc. introduces their TB Telescoping Fork Truck Boom which is a fork attachment designed for lifting and carrying loads with a telescopic boom attached to a fork truck. The TB is available in capacities of 3,000 to 8,000 lbs. at 3 to 6 feet maximum hook position and 1,500 to 3,100 lbs. at 12 foot maximum hook position. Additional sizes and capacities are available.

The TB Telescoping Fork Truck Boom features a locking pin to allow for multiple hook positions and



an attached handle for ease of boom extension. It is supplied with restraining chain with grab hook, and a pair of heavy-duty swivel hooks or fixed hooks.

The TB is engineered and manufactured to ASME B30.20 & BTH-1 Design Category B Service Class 2 and has a specified fatigue life of 100,001 to 500,000 load cycles. All TB, Telescoping Fork Truck Booms are Proof-Tested to 125% capacity.



Quality Systems & Procedures For Product Litigation Defense

With the ever-increasing number of lawsuits issued against manufacturers and distributors of lifting products, Quality Systems and Procedures must be established and followed to offer maximum protection in the event a lawsuit is issued against the company. If a product breaks which results in equipment damage, personal injury or death, knowing that the company and all company personnel have done everything possible to have prevented this incident by supplying High Quality Products and Services to its customers is essential. The first action step is establishing an in-house Quality System, either engaging the services of an organization such as ISO for accreditation, or in developing the company's own Quality Program which will be audited by a qualified outside firm at least annually.

This Quality System entails many areas of responsibility and empowers all employees to conduct their duties in compliance within their particular work area. The Quality System requires that policies be developed from a unified Mission Statement representing all areas of the company, and that they be documented, distributed and verbally presented to all employees. A main file containing these policies should be established, maintained and periodically updated. These policies, once developed, reviewed, and approved

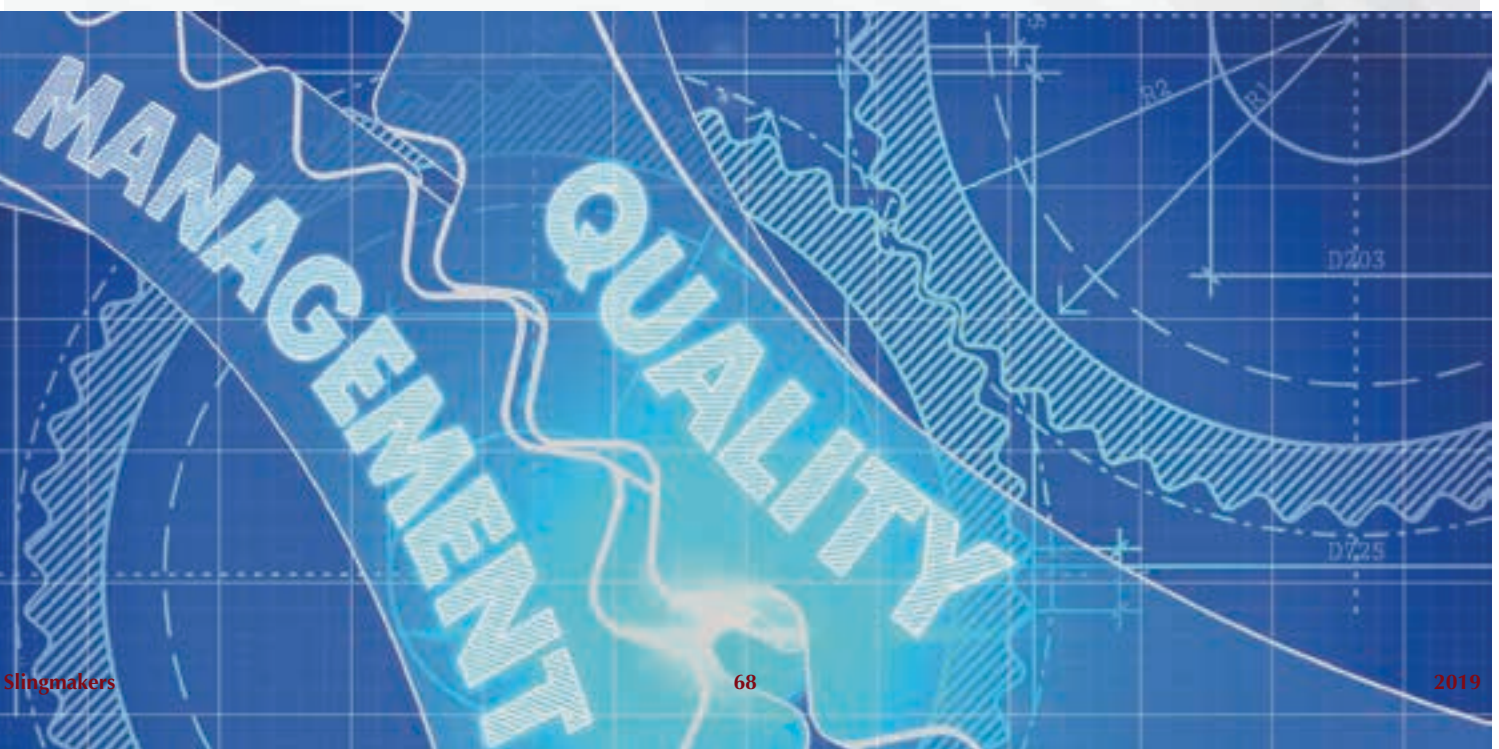
by management, are then the pillars upon which the overall Quality System can be built.

The Quality Program under the direction of the Quality System must be documented with signatures of anyone who is trained, appointed and involved in assuring all Quality Control steps are followed. Accountability is a necessary part of a successful Quality Program. All employees should be introduced to the Quality Program in written form and group presentations. It is important that all employees sign off on their having received the information and in attending the group presentations. Following these initial steps in developing the Quality Program, it must now be incorporated into the company "Culture" to act as a shield against any allegations or litigation involving a product which has broken for any reason.

The following outline summarizes various sections of a Quality Program which can greatly assist in defending against a product litigation case brought against a manufacturer, distributor, fabricator or any other entity involved in the chain of commerce.

A. **Design Of A Product Used In The Lifting & Handling Industry**

Maximum protection for a company involved in product litigation begins even before a product is manufactured. Documentation initiates with the conceptual ideas, development and testing of a product. If a product comes to fruition, files should



be retained on the design parameters, testing data and final approval by engineering and management. The design must follow the guidelines under industry standards, such as ANSI, ASME, Web Sling & Tie-Down Association, The Cordage Institute, NACM, the applicable ASTM Specifications, ISO requirements, Government Regulations or other certified and approved sources.

B. Ensuring Quality Of Materials From Outside Vendors

If purchasing fabricated products and materials from outside vendors for use and/or resale, qualify these suppliers by approving and having their Quality Procedures & Program on file. Appropriate testing of the products and materials received from a supplier should be initially, and periodically, conducted to verify the quality and adherence to the company specifications as previously noted. It is also suggested that periodic quality audits of suppliers be conducted.

C. Purchasing & Receiving Materials From An Outside Vendor

When purchasing products and materials from an outside source which are used in fabrication or resale, the purchase order must contain a detailed description of what is to be purchased, including complete description, quantity, dimensions, applicable specifications, pricing, delivery dates and location, type packaging and other specific requirements. All of these forms should be documented and retained for future traceability in the event of product litigation.

When products and materials are received, a bill of lading, a copy of the purchase order, and possibly a copy of the invoice should accompany the delivery. It is extremely important that material test certificates be included with the delivery. Quality checks and periodic testing of incoming products and materials should be conducted and permanently documented for quality verification and traceability.

D. In-House Testing For Quality Verification During Manufacturing

The Quality Program must include direction in adhering to the Quality Control Manual, and must be published and distributed to all areas of manufacturing and handling. The various steps throughout manufacturing and handling should be verified and signed off by the individuals performing their work. Again, these forms should be

retained to properly trace the manufacturing steps involved.

On-going testing of the final product should be periodically conducted and the test data retained to verify the quality and integrity of the finished item. This includes product certification testing required by customers; internal verifications or product modifications; testing by outside agencies; and any data collected from field testing and actual applications.

E. Publications

Files should be kept on literature which has been distributed to customers and the general public. This includes such items as catalogs, newsletters, product bulletins and advertisements, including those posted on social media.

F. Training Classes

Documentation of all training classes, both in-house and outside the

- a. Organization, including customers and associations, should include:
- b. Name of company or organization which was trained
- c. Topics presented
- d. Date & location of training
- e. Participants names & signatures

Although nothing can prevent someone, or some entity, of filing a lawsuit against a manufacturer or distributor, these listed suggestions can offer a good defense against such action. The laws addressing Product Litigation are continually changing state by state. There may be conflicting rules of law in personal injury cases filed in state and federal courts. Tort reform is also an on-going issue. States may also vary in what statutes are applied regarding issues of negligence and product defect. In any case, the measures as suggested above will greatly assist in defending a manufacturer or distributor in the event of such litigation.

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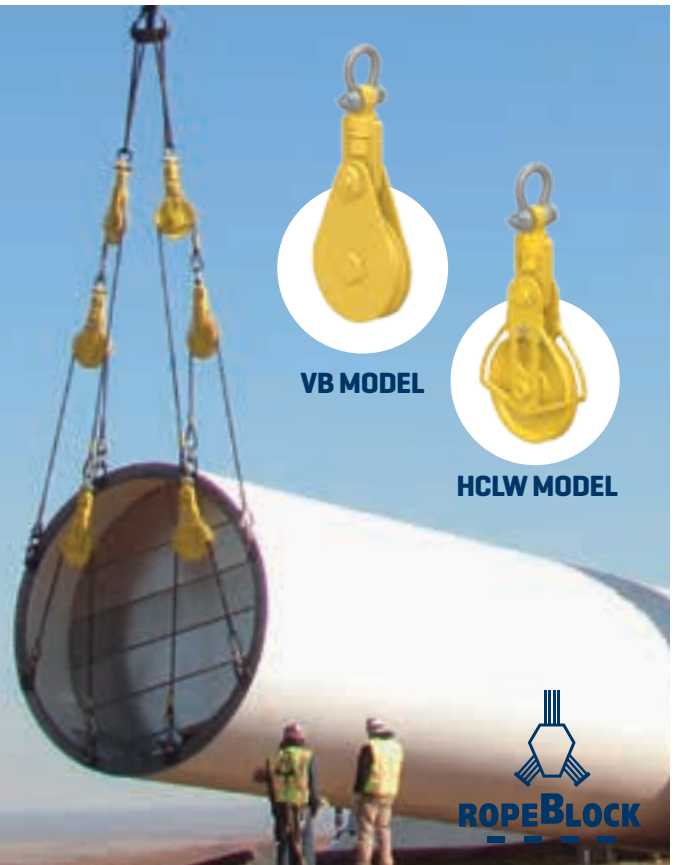


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Proper Succession Planning Increases Value for the Owner

Continued from page 45

During the last 3 years, you should meet with your team at least 2 hours a year. Once you have found a qualified buyer, you will start meeting with your team more often. These 3 individuals will cost money, but the value that they add to you and your business will be far greater.

After 3 years of working with your team, the results that you should experience will be higher profits in the company during the last 1 or 2 years. Your financial statements will be clean and the buyer will be impressed. Both you and the company will be ready for the typical due diligence process that any buyer would require. You will get a higher selling price and the taxes on the sale will be minimized. You will also have a clear understanding of your retirement income and what your net worth will look like in future years.

These ideas will help you prepare for the sale of your business and give you comfort in knowing that you are ready to start the next chapter. If you have more questions, please contact us.

WORDS FROM THE PRESIDENT

Continued from page 3

opportunity to undertake. It truly was one of the highlights of my professional career.

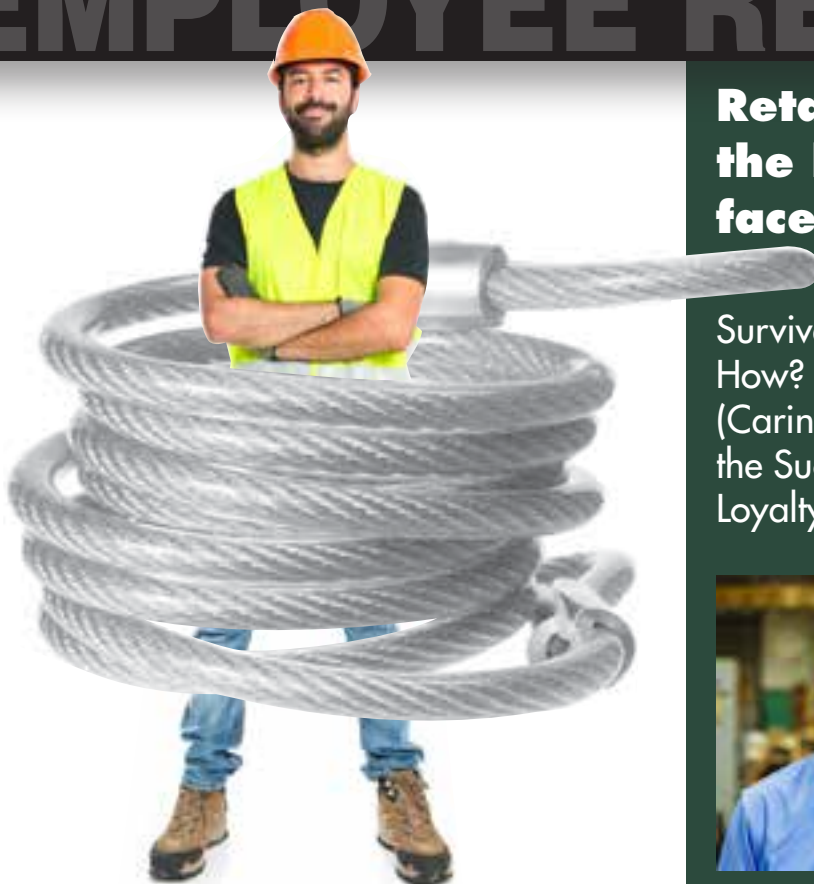
Finally, I cannot close out this year without taking a minute to remember one of our past Presidents and my dear friend Bill Franz who lost his fight with pancreatic cancer in August – God Bless.

I look forward to seeing everyone in San Diego in October and as always, if you have an interest in getting more involved, have ideas, comments or feedback, the board wants to hear from you.

Send us an email at awrf@awrf.org or talk to one of us at the upcoming meetings.

Sincerely,
Nicole R. Parkerson
AWRF President 2019

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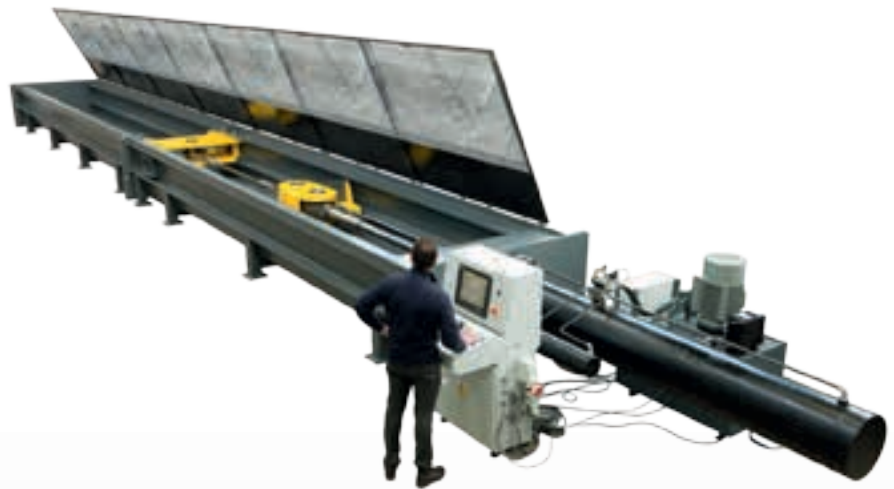
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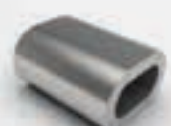


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Presentations from your AWRP Technical Committee; provided for your AWRP membership benefit

Broomfield, Colorado Fall 2003 (October 19 – 22)

- Skip Ohman, Association of Crane & Rigging Professionals
- Ron Weiskircher, Welded Chain Specifications on the NACM website
- Dr. Tom Lengill, Chain & Wire for Hot Dipping – tests by American Galvanizers Assn.
- Kent Richards, Aluminum Sleeve Swaging – Part II
- Don Sayenga, The new ASME B30.9 Sling Safety Standard
- Howard Will, Results of AWRP Test Program X – Webbing Edge Cuts
- Dennis St. Germain, Mechanical Splicing – Flemish Eye vs. Y-Splice (Texas Tuck)

Savannah, Georgia Spring 2004 (May 2 – 5)

- Harold “Bud” Johnson, Environmental Contamination Remediation
- Dennis St. Germain, Richard Miller, Edwin Grootendors, Forrest Sloan, Richard
- Capuano, High Performance Yarns
- John Smith, Degradation of Nylon Webbing
- Don Pellow, Barry Epperson, Robert Troshynski, Sling Tags
- Jon Khacharorian, Heavy Lifting applications using Spreader Bars

San Diego, California Fall 2004 (October 17 – 20)

- Charles Lucas, B30.26, Rigging Hardware
- Michael Gelskey, Michael J. Stevenson, Failure to Warn
- Dave Sleightholm, Temperature Effects on Wire Rope & Wire
- Knut Buschmann, Dennis St. Germain, Sr., Pin Diameter and Edge Protection for Synthetic Slings

Scottsdale, Arizona Spring 2005 (April 17 – 20)

- Jon Lamrouex, B30.20 Update – Below the Hook Lifting Devices
- Charles Lucas, B30.26 Update – Importance in Conforming to the Latest Standard
- Michael Gelskey, Product Liability- The Best Offense is a Good Defense
- Jim Anderson, Helicopter Lifts – Birdseye View of Rare Monster Helicopters and Special Lifts

Boston, Massachusetts Fall 2005 (September 25 – 28) – P.I.E.

- Knut Buschmann, AWRP Your Unknown Trade Association
- Barry Epperson & Jeff Gilbert, Safety – Swager Guarding
- Knut Buschmann & Howard Will, Final Report Test Program X – Edge Cuts
- Charles Lucas, “The Killer Sun”
- David Johnston, New Tie Down Specification WSTDA T1 2005
- James Cahill, “The Big Dig” Elevated Highway Portion

St. Petersburg, Florida Spring 2006 (April 23 -26)

- Roland Verreet, Wire Rope Forensics
- Dave Sleightholm, Rotation Resistant Wire Rope Latest Information
- Knut Buschmann, New AWRP RP & G Proof Test Procedure for Chain Slings
- Michael Gelskey, Tagging Methods for Slings

San Antonio, Texas Fall 2006 (October 22 – 25)

- Dr. Silke Schoenherr, Reduction in Service Life of Wire Rope Running Over Sheaves
- Dave Sleightholm, Wire Rope Inspection Guidelines
- Knut Buschmann, RP & G for Chain Proof Testing
- Howard Will, Plate Clamp Test Program

Palm Springs, California Spring 2007 (April 22 – 25) – P.I.E.

- Howard Will, Results of Plate Clamp Tests
- Knut Buschmann, RP & G on Test Bed Safety Guide
- Michael Gelskey, Risk Management

Quebec City, Quebec Fall 2007 (October 7 -10)

- Knut Buschmann, RP & G – Test Bed Procedures
- Steve Tipton, Influence of Proof Testing on Fatigue Strength
- Mike Parnell, ASME B30.1
- Michael Gelskey, Sr., RFID Tagging (Panel Discussion)

San Francisco, California Spring 2008 (April 13 – 16)

- Richard Chaplin, “Challenges of the Deep”
- Knut Buschmann, The New AWRP Recommended Practices and Guidelines for Swager Guarding
- Tony Mazzella, “What B.30 has to say about Non-Electrical Mechanical Chain Falls and Lever Hoists”

Chicago, Illinois Fall 2008 (October 14 -17) – P.I.E.

- Steve Greene, Crane & Lifting Concerns, Volatility of Material Pricing and overview of NCCER
- Knut Buschmann, Approval of RP & G on Swager Safety Guide
- Phil Rundle / Jon Khachaturian, “Bottom Feeder”

Austin, Texas Spring 2009 (April 19 – 21)

- Karl-Heinz Wehking, Innovative Visual Rope Inspection Method for Maintenance
- Don Pellow, Crane “Incidents”
- Dave Richards, Synthetic Fiber Mooring Lines

Orlando, Florida Fall 2009 (October 25 – 28)

- Isabel Ridge, Summary of the OIPEEC Conference – March 2009
- Don Jordan, National Commission for the Certification of Crane Operators
- Tim Klein, Report of Testing – Flemish Eye v. Texas Tuck
- Don Sayenga, Innovative Ropes & Rope Applications
- Barry Epperson, Warning Signs – Proper Warning Labeling of Products

Bellevue, Washington Spring 2010 (April 11 – 14) – P.I.E.

- Knut Buschmann, Rope Failures on Tower Cranes
- Karl-Heinz Wehking, Nondestructive Wire Rope Testing

Asheville, North Carolina Fall 2010 (October 24 – 28)

- Roland Verreet, What Can We Learn From Wire Rope Failures
- Don Pellow, ALL You Wanted to Know About the New ASME & WS&TDA Safety
- Standards; Panel Presentation
 - WSTDA – RS1 – Bob Jasany
 - ASME B30.10 – Paul Boeckman
 - ASME B30.20 – Tom Hayward
 - ASME B30.26 – Paul Boeckman
 - Recommended Practices & Guidelines, Wire Rope Slings – Knut Buschmann
- Don Pellow, New OSHA Regulation - 29 CFR 1926.1400 – Cranes & Derricks in Construction
- Brian Todd, Results of NACM test program to determine effect on “breaking strength” over various diameters and Update on Chain Specifications ASTM A 906 and 952 RRC – 271D
- Tony Mazzella and Peter Cooke, Understanding OSHA/ ASME: Hoist Inspection & Testing Requirements

Honolulu, Hawaii Spring 2011 (April 3 – 6)

- Knut Buschmann, EN 13411 Aluminum sleeves on high performance wire ropes
- Knut Buschmann, Guideline for testing wire rope slings and destruction tests on wire rope

- Michael Gelskey, Mock trial of a product failure and court proceedings.
- Past AWRP Product Test Programs, results, publications, and where to find them on our website

Kansas City, Missouri Fall 2011 (October 2 – 5) – P.I.E.

- Denny St.Germain Sr. - S.I.G.N.A.L.
- Jim Nicolo, Consultant to DLA - Update on new Chain Spec RR-C-271F
- Michael Gelskey Sr. - Survival Planning in a Litigious Society

Atlanta, Georgia Spring 2012 (April 22 – 25)

- Bill Franz - QHSE Survey Progress
- Dan Merrill – Safe Use of Swagers
- David Duer – Presentation on the new BTH1 in conjunction with B30.20, Below the Hook Lifting Devices
- Karl-Heinz Wehking, University of Stuttgart – Continuing Rope Research
- Knut Buschmann, Presentation on updated Recommended Practices & Guidelines for Chain Slings

Washington, District of Columbia Fall 2012 (October 1 – 2)

- Steven Boyko, Barnhart Crane and Rigging – Insight from a Barnhart Rigging Engineer
- Gary McBurney, Gunnebo Johnson – Specifics & Field Inspections of Sheaves
- Jeff Levin, Levin and Associates – Country of Origin Markings
- Don Pellow, Pellow Engineering – Overview of the AWRP Technical Committee
- Tim Klein, WireCo WorldGroup – Test Program Wire Rope D/d Report
- Jeff Gilbert, AWRP Chief Executive – History of Wire Rope Film
- Don Sayenga, AWRP Historian – The Briggs Patent Decision of 1952.

Fort Worth, Texas Spring 2013 (April 28 – May 1) – P.I.E.

- Bill Franz & Doug Stitt – AWRP Quality Survey Update
- Karl-Heinz Wehking, University of Stuttgart – Hybrid Rope Technology
- Don Pellow, Pellow Engineering – Boom Hoist Failures
- Knut Buschmann, Unirop® Limited – Swager Guide Presentation and Approval by AWRP Membership
- Knut Buschmann, Unirop® Limited – Cold Weather Application of Wire Rope

Los Angeles, California Fall 2013 (October 20 – 23)

- Todd L. Peterson , Bassi Edlin Huie & Blum, LLP– “How America’s most conservative jurisdiction awarded \$21 million for “Failure to Warn”

- Michael Gelskey, Sr. Lift-It Manufacturing, – “The Day the Rigging Failed”
- Knut Buschmann, Unirop® LTD – Approved Aluminum Loop Back Splice System for Standard and High Performance Wire Rope
- Thomas Mackey P.E., Mackay Consultants LLC, - Synthetic Slings
- Brian Todd, Apex Tool Group – Something about Chain
- Steven Boyko, Yarbrough Cable Service – Rigging Job of the Year 2011 – Barnhart Crane & Rigging – Point Beach Nuclear Station

Baltimore, Maryland Spring 2014 (April 27 – 30)

- Knut Buschmann – Unirop® Ltd. - Stimulating Rope Applications – a report on OIPEEC Conference in Oxford, England
- Tim Klein - WireCo WorldGroup - Rotation Resistant Wire Rope Fundamentals
- Tom Secules - Wirerope Works -Wire Rope Socketing – Resin & Zinc
- Ed French - V.C. French, LLC - New Hazmat Rules and How They Affect Rigging Shops

St. Louis, Missouri Fall 2014 (October 26 – 29) – P.I.E.

- Jeff Susman – Slingmax® Rigging Solutions – Considerations for Use & Care of Multi-Path, High Performance Fiber Roundslings
- Michael Quinn – Samson Rope – Designing New Lifting Experiences with Synthetic Rope Technology
- Panel Discussion – Fall Protection Standards
- Don Pellow – AWRP Technical Committee Chair
- Marty Sharp – Ultra Safe
- Bob Jasany – WSTDA
- Todd Sharp – SpanSet

Indian Wells, California Spring 2015 (April 12 – 15)

- Delynn Burkhalter – Burkhalter Construction – Rigging Job of the Year 2013 – Galveston Causeway Railroad Bridge
- Michael Gelskey, Sr. & Jr. – LIFT-IT Mfg – Cost Effective Excellence is NOT Dropping Loads.
- Knut Buschmann – Unirop® Ltd – OIPEEC Conference Update – “Challenging Rope Applications”
- John Groce, P.E. – WireCo WorldGroup – Evaluating Bends, Waves, Kinks and Helical Deformations in Crane Wire Ropes
- Tom Eicher – The Caldwell Group – Below the Hook Lifting Devices

Brooklyn, New York Fall 2015 (October 18 – 21)

- Tim Klein - WireCo WorldGroup – Edge Protection Test Results
- Michael Gelskey, Sr. – LIFT-IT Mfg. & Thomas Mackey – Mackey Consultants – Acceptable Edge Protection and Procedure

- Knut Buschmann – Unirop® Ltd – OIPEEC Conference Update – “Challenging Rope Applications” – 2nd half
- Knut Buschmann – Unirop® Ltd – RP & G on Hoists
- Bill McAlaine – Fuchs Lubrication, Etienne Grignard – Grignard Co., John Dunne – American Oil – Wire Rope Lubrication Presently Used, New Products, EPA World

New Orleans, Louisiana Spring 2016 (April 17 – 20) – P.I.E.

- Jim Wiethorn P.E. – Haag Engineering Co – Wire Rope Field Problems*Did not present due to Houston storm
- Jon Khachaturian – Versabar – Unique Lifts

Toronto, CANADA Fall 2016 (October 23 – 26)

- Don Pellow P.E. –Pellow Engineering Services – Product Failure – Series: Wire Rope
- Joost Eertman – RopeBlock B.V. – The Science of Cabling & Optimization Solutions

Savannah, Georgia Spring 2017 (April 23 – 26)

- Jim Wiethorn P.E. – Haag Engineering Co – Wire Rope Field Problems
- John Glinski – Crane Training & Safety Consultants – Tapping into New Technologies at the Tappan Zee Bridge
- Baron Lukas – Envirologic Solutions – ISIS Trail of Terror – Oil Price War, A New Age and an Uncertain Future
- Skip Ohman, Jr. -

Minneapolis, Minnesota Fall 2017 (October 22 – 25) – P.I.E.

- Don Pellow, P.E. – Pellow Engineering – Sling Failures
- Mike Lins – Vic’s Crane & Heavy Haul – Project Highlights

Scottsdale, Arizona Spring 2018 (April 22 – 25)

- Knut Buschmann – Unirop Ltd. – Fiber Rope Fundamentals
- Panel Discussion– AWRP Technical Committee with Brandon Gutshall – Shook, Hardy & Bacon LLP
- Felix Nyberg – Gunnebo Johnson Corporation – Effects of Environmental Conditions

San Antonio, Texas Fall 2018 (October 14 – 17)

- Chris Richardson – Lone Star Rigging – B30.30 Update
- Don Pellow, P.E. – Pellow Engineering – Rigging Hardware Failures
- Matt Gardiner P.E. & Kevin Kianka, P.E. – HAAG Engineering – 3D Drone Accident Review
- Greg D’Elia – Slingmax – Sling Protection/Pads

Cleveland, Ohio Spring 2019 (April 7 - 10) – P.I.E.

- No Technical Presentations



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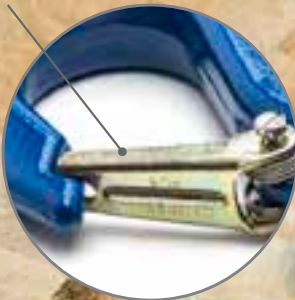


Latch marking
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Dual boss latch/
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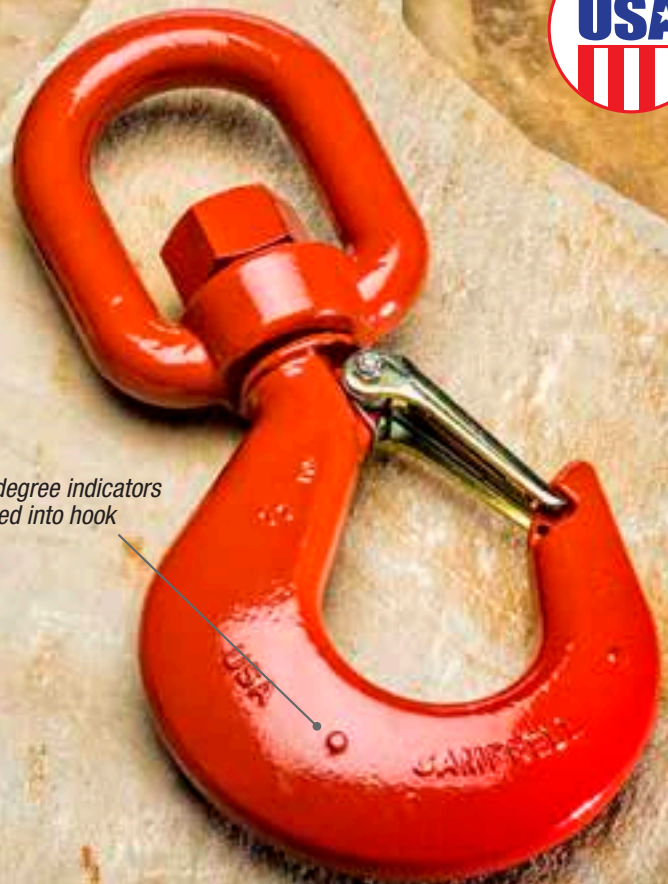
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45-degree indicators
forged into hook





Straightpoint Unveils First Authorised Calibration Centres

Straightpoint (SP) has named the first regional distributors to be titled Authorised Calibration Centres, as the load cell manufacturer looks to expand the services available to customers close to the point of use.

Calibration—correlation of the readings of an instrument to check accuracy—is a crucial component of force measurement. Authorised centres, some of which previously offered calibration services, will need a highly accurate hydraulic test machine equipped with a reference load cell that gives traceability to national standards. Importantly, the requirements for traceability will change from one country to the next. All personnel performing calibration will undergo training by SP and centres will supply copies of third-party calibration certificates for their test machines annually.

David Mullard, business development manager at SP, said: “If an instrument is not calibrated, it defeats the object of using one to monitor a lift, if it’s not a true and accurate measure of the load. Safety starts with accurate measurement.”

SP currently calibrates load cells at its Havant, Hampshire headquarters up to 350t capacity in both tension and compression—and will continue to do so. However, its range of equipment is used in below-the-hook and other applications all over the world, where a global network of dealers represents SP. Authorised distributors will now be able to calibrate and return instruments within days, rather than factoring in additional time for shipment to the company’s headquarters or a third party calibrator.

Mullard said: “We are always looking at ways to improve our service levels to customers and calibration is an important part of that for an SP load cell. We recommend that calibration is done every 12 months but that can vary depending how intensively a load cell is used. If an instrument is employed for hundreds of lifts per day, we would recommend it be calibrated more frequently. In those instances, a local calibration centre is a major plus point.”

Eight distributors have been given Authorised Calibration Centre status: Australian Calibrating Services, Australia; RUD Lifting Japan Co. Ltd., Japan; Gaylin, Malaysia; Carl Stahl UAE, UAE; Van Gool, Netherlands; Trinidad Inspection Services, Trinidad; Myers Manufacturing, USA; and Data Weigh, USA. All will use the necessary SP calibration equipment

and the manufacturer will share procedures with them to provide a consistent service level worldwide.

Mullard said: “In some cases they have sourced their own equipment but in others they are using our 55t load cell test machine [LCTM55T], which is a hydraulic vertical test rig based on one of our own machines used at HQ. The capacity meets the requirements of more than 80% of the load cells we sell. We’ll also offer training, software and parts as required, as well as farm out requests for calibration from end users.”

He added: “We’re not revolutionising our distributorship model where we’re expecting all partners to gravitate towards calibration. Most are happy to sell the full range of SP load cells and let customers make arrangements for calibration as they wish—and that’s not a trend we’re looking to obstruct. Only certain distributors will have the capability or desire to calibrate and repair, and only a limited number are required worldwide to provide that service.”

SP has already started promoting Authorised Calibration Centres, outlining who can calibrate, where they are based, the tonnage they can calibrate to, and repair capabilities. Such details will also be published on the website: www.straightpoint.com.



All personnel performing calibration will undergo training by SP. Photo courtesy of Dataweigh.

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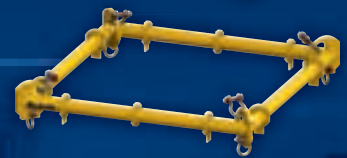
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Arizona Copper Mine Sees Benefits of Shock Damping Fiber Pendants

A copper mining company in Arizona recently installed a Shock Damping Fiber Pendant set on its 4100 shovel. The fiber pendants were part of a recent shovel refurbishment.

The overhaul was done by Elko Wire Rope and involved complete undocking of the electric shovel that included replacement of all undercarriage parts and replacement of the steel wire pendants with the new shock damping fiber pendants. The pendants were developed by Applied Fiber in collaboration with WireCo WorldGroup and DSM.

"Mining is tough on these machines; the shovel often requires considerable repair from regular shock loading," says Ed Gower, Vice President of Technical Services for WireCo WorldGroup. "The boom is jacked or rocks fall into the dipper, significant forces are transferred into the entire machine which damages the boom and many integrated components. Fiber pendants substantially reduce the shock loads resulting in less fatigue cracking and less downtime. The pendants can help extend the life of the shovel."

Synthetic fiber absorbs impact energy better than steel with over 12 times the damping, and provides a fatigue life that is twice that of steel wire. The fiber pendants were made with Lankhorst Ropes and use Dyneema[®] DM20 fiber, which combines the strength and weight advantages of Dyneema[®] and is specifically designed for use in long lasting, permanently loaded applications. Shock load testing confirmed that peak loads were one-half that of steel.

A detailed inspection of the pendants was recently completed after nine months of operation. The inner strands in the bend zone and overall termination system remains in the same condition as when it left the factory.

"The mine reports a noticeable reduction in machine vibration, fatigue and welding repairs. The shovel operators are thrilled with the shock damping benefits of the pendants; one recently stated that it was the smoothest shovel they have ever been on," says Paul Badeau, VP Sales for Applied Fiber.

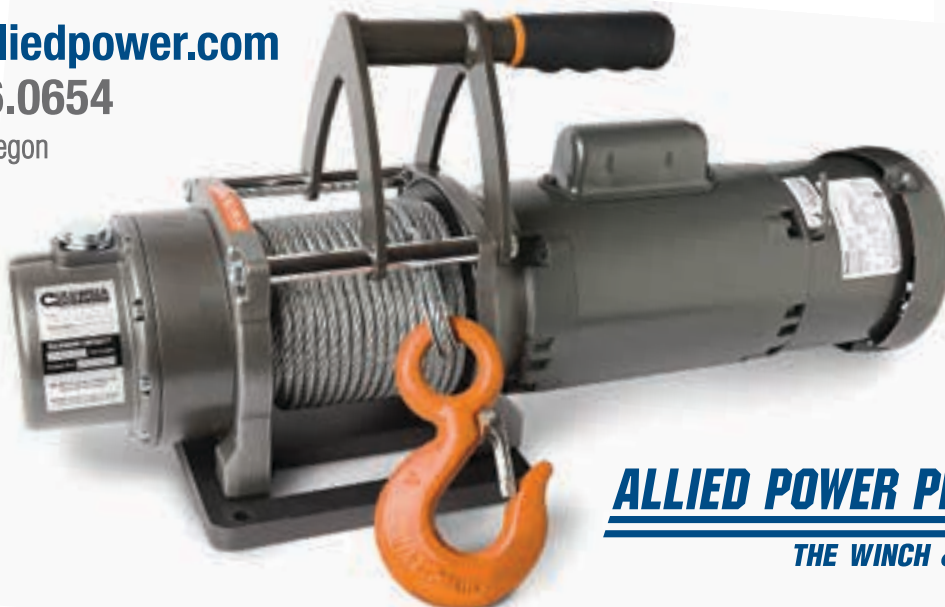
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Barbara Gilbert
Editor
barbara@awrf.org
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