



# SLINGMAKERS

Issue No. 109

Spring, 2006

## Message from the President



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March 21, 2006

Dear AWRP Members,

Spring is in the air as the first full day of spring has arrived today. In some parts of the country you wouldn't know it while in others the flowers are bursting out all over the place.

The winter season is a busy one for the officers and directors of your association. We held our winter board meeting in Key West, Florida on January 20th and 21st. It was remarkable to see how the town had recuperated after the two hurricanes rolled through this past summer. If only the gulf regions were able to rebound so quickly. Our Executive Director, Mr. Jeffrey Gilbert and our Treasurer, Ms. Anne Renfroe, presented your Board of Directors with a balanced operating budget for the year. As a former Treasurer of the association, I know how much work goes into creating a workable budget. The Directors approved the budget for the year with the knowledge that there were certain assumptions which only time will tell if they were correct.

The two biggest assumptions have to do with our dues and our general meeting attendance. I've written before how large of a percentage our dues are. We have budgeted for our dues income to remain about the same as we had in 2005. This is a conservative approach which is the prudent way for us to budget. The attendance at our general meetings is also an important factor with respect to our budget assumptions. We plan to break even with our general meetings. If we have excellent attendance we might have a bit of income or if attendance is low, we might have a loss. Obviously I'm hoping for a great turnout down in St. Petersburg next month!

In February I had the pleasure of attending my first Technical Committee winter meeting held in Paradise Valley, Arizona. The Technical Committee, chaired by Mr. Don Pellow, is the lifeblood of our organization so I felt as President I should become familiar with the workings of this important committee. I left the meeting with great confidence in Mr. Pellow as chairperson and great respect for the volunteers who chair the various sub-committees. The amount of brain power and industry/product knowledge that was gathered at this meeting was truly impressive. The Professional Golfers Association uses a line to describe their members which I'm going to borrow to describe our Technical Committee, "These guys are good!" My hat goes off to these volunteer members who do so much for our association and our industry.

I look forward to seeing as many of you as possible in St. Petersburg. Mr. Paul Boeckman, our Program Committee chairperson, has put together a super lineup of presentations for Monday and Tuesday. Mr. Dennis Worswick, our Entertainment Committee chairperson, as always, has gotten a great night of entertainment for our banquet. If you like Motown music you're going to love Motown Madness. There will be over twenty performers doing celebrity impersonations.

See you there,

Michael M. Wallace  
President AWRP

### Contents:

Government Affairs Committee  
Report-AWRP Code Of Ethics

Government and Military  
Purchases of Wire Rope

Safety Committee

Technical Committee-Web Sling  
Minority Report

Technical Committee-Tackling Tackle

News about Members

AWRP Calander



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# GOVERNMENT AFFAIRS COMMITTEE REPORT

## THE AWRP CODE OF ETHICS

By  
Barry Epperson,  
General Counsel and Chairman,  
Government Affairs Committee



While the legitimate application of codes of ethics within the non-profit sector can bring about many obvious redeeming features, the enforcement thereof by trade associations can raise sensitive legal issues.

First, self-regulation can be anti-competitive if it results in restraint of trade, i.e., the elimination of “undesirable” yet viable participants in the industry marketplace. Secondly, because associations can, to a large degree, restrict access to business privileges, such as professional education and meetings with suppliers and customers, they have the capacity to inhibit business opportunity. Accordingly, serious antitrust implications are always on the threshold (regardless of motive) when codes of ethics keep one from practicing a lawful trade. Moreover, even when ethical sanctions of an association member do not keep him or her out of the stream of commerce, the negative perception of association expulsion or exclusion, i.e., loss of status, can result in judicial intervention.

Perhaps it goes without saying that the discipline of any association member for alleged violations of an association code of ethics must afford the accused the right to due process. But even constitutional propriety will not protect an association from judicial scrutiny when the association acts with bad faith motives (often translated to mean intentional restriction of competition). For example, courts have held that an association must produce proof that the allegations against a member or prospective member are true. Further, those who would officially adjudicate whether or not an individual is “ethical” must be impartial, i.e., without a commercial interest in depriving that entity of the status membership. Query: is impartiality possible in an association of competitors? Accordingly, courts have traditionally frowned upon strict application of ethical constraints, demanding instead that degree of flexibility warranted under each set of circumstances. Thus, precedent suggests that ethical rules should be used as incentives rather than as intractable grounds for censure, ejection or rejection.

The application of codes of ethics to insure “legitimate business practices” is in and of itself a red flag to vigilant enforcement agencies such as the Federal Trade Commission and U.S. Justice Department. Such behavior by an association also presents attractive opportunities for exploitation by plaintiffs’ lawyers.

Attempts by associations to regulate competition are always suspect under the law. In the 1978 U. S. Supreme Court case of Nat. Soc. of Professional Engineers v. the United States, the holding reemphasized that association rules which adversely impact price competition are “presumptively condemned”. Here the association lost the case even though the Court found that its motivation was not anti-competitive. In another U.S. Supreme Court case arising in Ohio, the Court held that restrictions on advertising which an association deemed “undignified,” “not in good taste,” “flamboyant” or “sensational” were not legally justified, notwithstanding the adverse impact of the ads upon the reputation of the association.

Codes of ethics may serve as lawful and inspirational tools without antitrust risk if used as guidelines or recommended practices. It is only where coercive enforcement is used by an association such as fines, rejection or expulsion that illegal agreements in restraint of trade are automatically suspected. This is to say that where sanctions are applied to violations of codes of ethics, the possibility of antitrust consequences is exacerbated. Efforts at self-regulation by non-profit trade associations, however laudable in intent, cannot escape legal scrutiny if there is a coincidental restraint upon competition.

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# AWRF

# GENERAL MEETING

St. Petersburg, FL  
April 24 & 25, 2006



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## SPEAKERS & PRESENTATIONS

**Wire Rope Forensics** — Ronald Verreet's enlightening presentation details the cause and effects of wire rope damage and failures. The presentation, which was a collaborative effort with Dr. Isabel Ridge of the University of Reading provides simple explanations and solutions for some common wire rope problems.

Ronald Verreet of Wire Rope Technology Aachen

**Family Business In The Rear View Mirror** — 20 years of valuable experience working with the most successful and long lasting family businesses has prepared Mike Henning to provide information about business growth and succession planning. Additional individual 30 minute sessions are available Monday afternoon. Limited to available time. Contact AWRf office for scheduling.

Mike Henning of Henning Family Business Center

**The New Drivers of Profitability** — Drawing on results of AWRf 2005 Profit Report, Al Bates has suggestions for improvements required to increase profit for AWRf member companies.

Al Bates of Profit Planning Group

**The Insiders Approach to Online Marketing** — From insight into the latest Internet trends to practical advice, this presentation is designed to help industrial executives and marketing professionals to significantly improve their online marketing results.

Scott Virkler of GlobalSpec

**Rotation Resistant Wire Rope -Latest Information** — New definitions of rotation resistant wire ropes are showing up in the industry. This presentation outlines the new classifications and standards applicable to these wire ropes.

Dave Sleightholm of Bridon American Corporation

**Tagging Methods for Slings** — A discussion of some of the different methods of attaching tags to slings in compliance with current standards.

Panel Discussion

**New AWRf RP&G Proof Test Procedure for Chain Slings** — A new Recommended Practice & Guideline on chain sling testing has been developed by the AWRf Technical Board. Testing Committee Chairman Buschmann presents highlights of the just released document.

Knut Buschmann of Uniropo Limited

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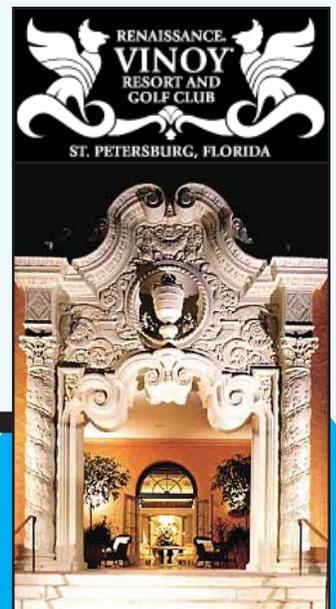
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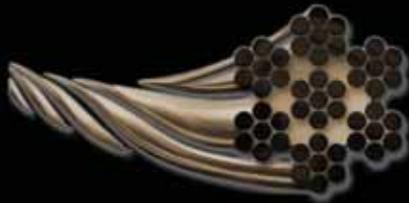


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# GOVERNMENT AND MILITARY PURCHASES OF WIRE ROPE

Michael Wallace, Vice President of Sales

March 17, 2006

The Federal Government, State Governments and the U.S. Military are huge purchasers and users of wire rope and cable. Most of the federal and state purchases are indirect, meaning they are purchasing larger items which contain wire rope or cable. The military is similar but they purchase much more wire rope and cable on a direct basis.

Think about all the applications for wire rope and cable where either federal or state governments are the ultimate users. Items such as rock slide netting, messenger cable for hanging traffic lights, hoists in nuclear power plants and erosion control systems are just a small few of the applications where the ultimate end users are either the federal or state governments. Military applications for wire rope and cable are numerous as well. Some of the applications are; flight controls in aircraft, tow lines on winches, helicopter rescue hoists, lanyards, bomb hoists and the list goes on.

Most all purchases by the federal or state governments as well as the military are governed by regulations. The federal regulation is called the "Federal Acquisition Regulation" or FAR for short and the military version is called the "Defense Federal Acquisition Regulation" or DFAR for short. Both sets of regulations have a clause named "Buy American Act – Supplies".

In the FAR it falls under Part 25 – Foreign Acquisition, Subpart 25.1 – Buy American Act and it reads as follows:

## Part 25 – Foreign Acquisition, Subpart 25.1 – Buy American Act 25.100 Scope of subpart.

This subpart implements the Buy American Act (41 U.S.C. 10a - 10d) and Executive Order 10582, December 17, 1954. It applies to supplies acquired for use in the United States, including supplies acquired under contracts set aside for small business concerns, if—

- (a) The supply contract exceeds the micro-purchase threshold (\$2,500.00); or
- (b) The supply portion of a contract for services that involves the furnishing of supplies (e.g., lease) exceeds the micro-purchase threshold.

### 25.101 General.

- (a) The Buy American Act restricts the purchase of supplies that are not domestic end products. For manufactured end products, the Buy American Act uses a two-part test to define a domestic end product.
  - (1) The article must be manufactured in the United States; and
  - (2) The cost of domestic components must exceed 50 percent of the cost of all the components.
- (b) The Buy American Act applies to small business set-asides. A manufactured product of a small business concern is a U.S.-made end product, but is not a domestic end product unless it meets the component test in paragraph (a)(2) of this section.

What this basically means for federal purchases is that the wire rope that is supplied under a contract where the "Buy American



Act" is in effect, is to be U.S. made and the manufacturer's cost must be greater than 50%. Simply stated, if the steel in the wire rope was melted overseas, the manufacturer's cost contribution must be greater than 50% of the overall cost. If the steel was melted in the U.S. then stranded and closed in the U.S., the rope is totally a domestic end product. Keep in mind this applies to purchases that are "Small Business" set-asides. This means that the contract is to be placed with a U.S. small business, and if they are not the manufacturer, they are obligated to supply the product of a U.S. small business. The small business size standard for wire rope is 500 employees or less.

The military version, DFAR, is substantially the same. It falls under Part 225 – Foreign Acquisition, Subpart 225.1 – Buy American Act – Supplies and it reads as follows:

## SUBPART 225.1-BUY AMERICAN ACT—SUPPLIES (Revised December 9, 2005)

### 225.101 General.

- (a) For DoD, the following two-part test determines whether a manufactured end product is a domestic end product:
  - (i) The end product is manufactured in the United States; and
  - (ii) The cost of its U.S. and qualifying country components exceeds 50 percent of the cost of all its components. This test is applied to end products only and not to individual components.

The military has added a slight twist by adding an additional subpart, Subpart 225.70 - Authorization Acts, Appropriations Acts, and Other Statutory Restrictions on Foreign Acquisition. This subpart places restrictions on the purchase of certain very specific products. They are:

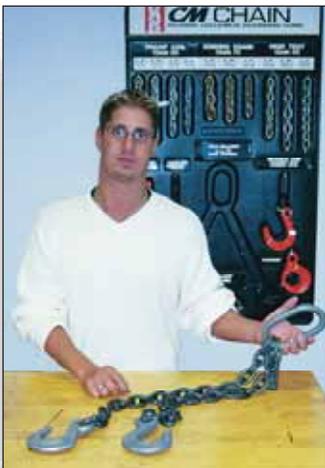
The following restrictions implement 10 U.S.C. 2533a. Except as provided in subsection 225.7002-2, do not acquire—

- (a) Any of the following items, either as end products or components, unless the items have been grown, reprocessed, reused, or produced in the United States:
  - (1) Food.
  - (2) Clothing.
  - (3) Tents, tarpaulins, or covers.
  - (4) Cotton and other natural fiber products.
  - (5) Woven silk or woven silk blends.
  - (6) Spun silk yarn for cartridge cloth.
  - (7) Synthetic fabric or coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics.
  - (8) Canvas products.
  - (9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles).
  - (10) Any item of individual equipment (Federal Supply Class 8465) manufactured from or containing any of the fibers, yarns, fabrics, or materials listed in this paragraph (a).
- (b) Specialty metals, including stainless steel flatware, unless the metals were melted in steel manufacturing facilities located within the United States.
- (c) Hand or measuring tools, unless the tools were produced in the United States.

Continued on page 37



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Every Past President is a member of the Past Presidents Advisory Council (PPAC). The following Past presidents are currently active participants on the PPAC.

	Term
Dick Miller	1981-1982
Jurgen Prohaska	1992-1993
Gary O'Rourke	1994-1995 (Chair)
Ned Librock	1997-1998 (Co-Chair)
Knut Buschmann	2000-2001
Kathleen Petrick	2001-2002
Jim Fletcher	2002-2003
Mark Metz	2003-2004
Bob Cushman	2004-2005 (Co-Chair)

Any Past President who wants to become an active participant of the PPAC and/or receive the PPAC reports by e-mail, need only to e-mail the Association Office: [awrf@att.net](mailto:awrf@att.net)

Questions and comments can be directed to any of the Past Presidents above.

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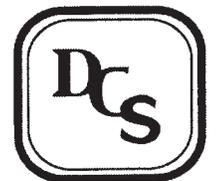
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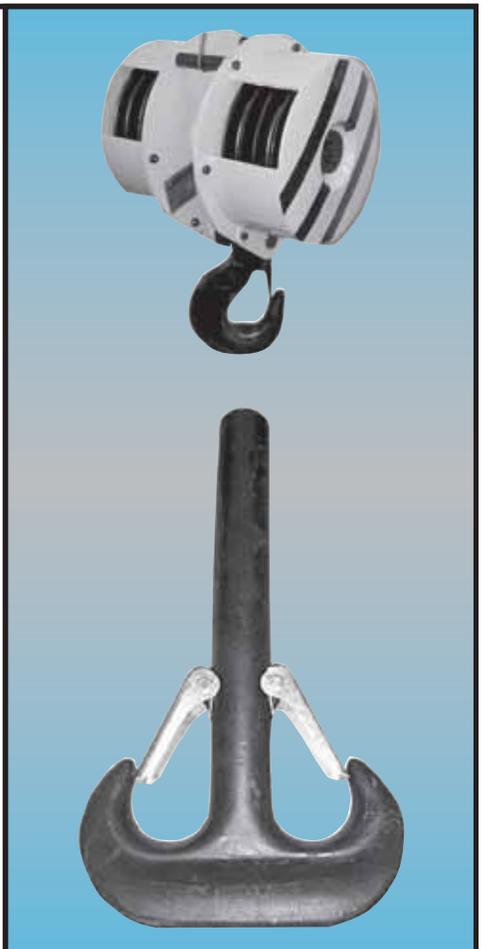


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## Your Safety Committee At Work

“You might be a safety guy IF...you can quote scenes from any Monty Python movie. You might be a safety guy IF...you have more friends on the internet than in real life. You might be a safety guy IF...you know what http:// stands for.”

Although a little humor might entertain and spark some interest, it can never make reality disappear. Reality is that many of our businesses fall within the “TOP TEN MOST DANGEROUS OCCUPATIONS IN AMERICA” as reported by Forbes.com.

Industry	Number of fatalities per 100,000 workers
1) Agriculture, Forestry, Fishing and Hunting.	30.1
2) Mining	28.3
3) Transportation and Warehousing	17.8
4) Construction	11.9
5) Utilities	6.1
6) Wholesale Trade	4.4
7) Professional and Business Services	3.2
8) Other Services	3.0
9) Manufacturing	2.8
10) Government	2.5

After reviewing the above statistics, it becomes very apparent why it is important for our businesses to have a strong safety culture. It has been observed by OSHA and confirmed by independent research that developing strong safety cultures have the single greatest impact on accident reduction of any process. It is for this single reason that developing these cultures should be top priority for all managers and supervisors. Safety cultures consist of shared beliefs, practices, and attitudes that exist at an establishment. Culture is the atmosphere created by those beliefs, attitudes, etc., which shape our behavior. A company with a strong safety culture typically experiences few at-risk behaviors, consequently they also experience low accident rates, low turn-over, low absenteeism, and high productivity. They are usually companies who are extremely successful by excelling in all aspects of business and excellence. Creating a safety culture takes time. It is frequently a multi-year process. A company at the beginning of the road toward developing a safety culture may exhibit a level of safety awareness, consisting of safety posters and warning signs. As more time and commitment are devoted, a company will begin to address physical hazards and may develop safety recognition programs, create safety committees, and start incentive programs. Safety becomes a value of the organization and is an integral part of operations. Management and employees are committed and involved in preventing losses. Over time, the norms and beliefs of the organization shift focus from eliminating hazards to eliminating unsafe behaviors and building systems that proactively improve safety and health conditions. Simultaneously, production does not suffer but is enhanced due to the level of excellence developed within the organization. As time will prove, a strong safety culture will improve your bottom line.

Very soon, AWRF will offer a Safety Training Video at no charge to our members. This will be available as streaming video on our website, DVD and VHS. We anticipate the project completion date will be the end of April.

Also, do not forget to check the website for the application to participate in the AWRF Safety Awards Program. This incentive, when shared with your employees can be a wonderful incentive for their safety efforts.

Safety touches so many areas of a business. It is up to you whether it is in a positive or negative sense. Safety really does work!

Teresa McGee  
 AWRF Safety Committee Chairman

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## MINORITY REPORT

### Effects of Edge Cuts on Web Sling Strength

I strongly disagree with the conclusions reached by the Web Sling Sub-Committee in analyzing the test results of Effects of Edge Cuts on Web Sling Strength.

#### I. What We Learned That We Did Not Know Before

The test results revealed three pieces of information that were not generally known prior to the testing:

1. Cuts or nicks in web slings do not produce a “zipper” effect when the sling is loaded. The remaining uncut fibers support the load until they are overloaded.
2. Contrary to a generally held belief, 2-ply slings did not perform better than 1-ply slings.
3. In most web sling use environments our testing has shown that polyester web slings do not perform as well as nylon web slings. In stark contrast, polyester web slings performed better than nylon web slings when cut. There was less loss of strength for the same cut, and polyester web slings showed uniform loss of strength in direct proportion to the cut in the sling.

#### II. What The Test Results Show

##### 1. Video Clips

There is little or no “zipper” effect. The remaining uncut fibers support the load until they are overloaded. This was particularly evident in the polyester slings.

##### 2. Average Break Data

###### a) 2-Ply Slings

2-ply slings did not perform better than 1-ply. This reinforces the theory that strength is reduced proportional to the fiber cut.

###### b) Nylon Slings

Nylon slings do not perform as well as polyester slings over the range of 12.5% - 50% cuts.

###### 1-Ply Slings:

Cut	Nylon	Polyester
	<u>Loss of Strength</u>	<u>Loss of Strength</u>
12.5 %	23.0%	7.6%
25 %	44.2%	25.5%
33 %	50.5%	30.6%
50 %	57.3%	47.1%

###### 2-Ply Slings:

Cut	Nylon	Polyester
	<u>Loss of Strength</u>	<u>Loss of Strength</u>
12.5%	31.3%	10.5%
25 %	46.2%	25.5%
33 %	54.8%	33.6%
50 %	61.5%	52.6%

###### c) Polyester Slings

Polyester slings show uniform loss of strength in direct proportion to the cut in the sling.

Cut	<u>Loss of Strength</u>
12.5%	9.1%
25 %	25.5%
33 %	32.1%
50 %	49.8%

#### 3. Charts

Edge cuts, or to use another term, nicks, have no appreciable adverse effects on synthetic webbing slings. This was also the finding in the Testing Committee Test Report.

In looking at 1-ply slings (both nylon and polyester) average break strengths were above 100% of the WLL in all cases except 4” polyester. In this case all breaks were BS (base of splice), i.e., not caused by the cut.

In looking at 2-ply slings (both nylon and polyester) average break strengths were above 90% of the WLL.

#### III. Removal Criteria

##### 1. The Big Picture – B30.9 Removal Criteria

One of the potential results of this Test Program X was that the test results would provide guidance on establishing removal criteria for web slings.

Four of the six slings covered by B30.9 have removal criteria based on reduction of effective diameter. Only synthetic webbing slings and synthetic roundslings do not have such criteria. Generally, the reduction of effective diameter allowed is around 10% (this is the figure used for synthetic rope slings which is most similar to synthetic webbing slings).

##### 2. The Case for Removal Criteria

I believe a case can be made to establish removal criteria for synthetic webbing slings based on width of cut.

###### 1. Consistency

For chain slings a reduction in diameter of about 13% is allowed prior to removal. With a Design Factor of 4 this means the Design Factor is reduced to 3.48 at the removal point, a 13% reduction.

For wire mesh slings a reduction in diameter of 15%-25% is allowed prior to removal. Using 15% and with a Design Factor of 5 this means the Design Factor is reduced to 4.25 at the removal point, a 15% reduction.

For rope slings a reduction in diameter of 10% is allowed prior to removal. With a Design Factor of 5 this means the Design Factor is reduced to 4.50 at the removal point, a 10% reduction.

To be consistent with other slings covered by B30.9 a reduction in Design Factor of 10% at removal for web slings should be acceptable.

###### 2. Web Sling Removal Criteria

Test results indicated that cuts up to 10% may be tolerated – a higher percent for polyester, a lower percent for nylon. Nylon criteria might be in the range of 2-6%; polyester criteria might be in the range of 6-10%. More tests are needed.

###### 3. Addition testing

To come up with a definitive percent for removal, comprehensive additional testing is needed. This would include nylon and polyester web slings, 1 and 2-ply, widths of 1”, 2”, 3”, 4”, 6”, 8”, 10” and 12” with cuts of 2%, 4%, 6%, 8% and 10%.

#### IV. The User

##### 1. Current B30.9 Removal Criteria for synthetic web slings:

A synthetic webbing sling shall be removed from service if conditions such as the following are present:

(d) holes, tears, cuts or snags

Basically this says slings must be removed from service for any cut. This is unworkable and does not conform to the real world.

It should be our job to provide meaningful removal criteria. We have the data and the means to conduct additional testing.

It is my judgment that the conclusion of the AWRP Web Sling Sub-Committee are wrong and provide a disservice to the User.

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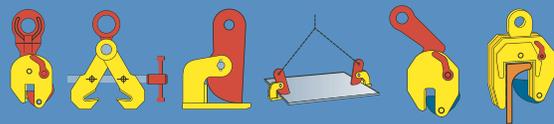
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LIFTING CLAMPS

## CM Hoist Produces Millionth Lodestar

In 1955, the CM Lodestar took the manufacturing industry by storm due to its unsurpassed durability and reliability for a variety of lifting applications. During the last half-century, CM Hoist of Damascus, Virginia, has successfully broadened the Lodestar line, and recently celebrated the production of the Millionth Lodestar Electric Chain Hoist.

During its 50-year history, the Lodestar has become the most recognized hoist in the world and is used in a wide range of markets, from metal fabrication to show performances. CM Lodestar has earned its high-quality reputation due to its stability, dependability, and efficiency, all in a low maintenance hoist. Today, Lodestar continues to combine the qualities workers have trusted for years with the addition of innovative features to meet the constantly changing needs of the market.

A CM Industrial distributor, TEAMSESCO, of Charlotte, North Carolina is being recognized for their monumental purchase of the Millionth Lodestar. Currently owned by Greg and Trey Smith, TEAMSESCO was founded in 1913, and the Smith family (now representing four generations) has been involved since 1918. The company first began distributing with Budgit hoists (a Columbus McKinnon brand) in the 1950's. Then in the 1970's TEAMSESCO became a distributor of CM, making CM their largest partner in the distribution side of their business.

Throughout the past year, CM Industrial Products has conducted the media campaign, "Celebration of Excellence" to promote the production of the Millionth Lodestar. Through print ads, direct mail, the Web, press releases, and trade shows, the contest required the contenders to guess the date that the Millionth Lodestar would be shipped by CM Hoist; offering \$1,500 cash as the grand prize.

In Washington, Dan Harris, an engineer from AREVA Framatome ANP, Inc., was the lucky winner of the "Millionth Lodestar" contest. Framatome specializes in manufacturing fuel rods and the processing of uranium for fuel in nuclear power production. They are also involved in the acquisition field from mining and de-commissioned weapons, as well as the storage of spent material. Harris's company uses Lodestars on a jib crane in their maintenance shop and a 2-ton unit with variable frequency drive used for handling and loading of the completed fuel rods.

The "Millionth Lodestar" program was not the only contest Columbus McKinnon has featured as part of the "Celebration of Excellence." To highlight Lodestar's reputation for unsurpassed lasting performance, the company also conducted a contest offering cash rewards for the top three individuals to uncover the oldest functioning Lodestar Electric Chain Hoist.

Columbus McKinnon Corporation (Nasdaq: CMCO) is a broad-line designer, manufacturer and supplier of sophisticated material handling products and integrated material handling systems that are widely distributed to industrial and consumer markets worldwide. Those items that reflect the highest sales of Columbus McKinnon's products segments are hoists, cranes, welded steel chain and attachments, and industrial components. Integrated material handling solutions are systems that are designed to meet specific applications of end users to increase productivity through material handling.



*The Legacy Continues*



Ted Griffin, CM Industrial Territory Manager, presents Millionth Lodestar Plaque to Trey Smith, President of TEAMSESCO, Charlotte, North Carolina.



Bob Smithson, CM Industrial Territory Manager, presents \$1500 grand-prize check to Dan Harris, Senior Project Engineer, AREVA/Framatome ANP Inc.



Millionth Lodestar Production - CM Hoists, Damascus, Virginia.





# NEWS ABOUT MEMBERS

## FOR IMMEDIATE RELEASE

Contact: Anne Renfroe  
(904) 356-4181



### Matthews Joins J.C. Renfroe & Sons, Inc. As Director of Engineering, Research and Development

Jacksonville, Fla.; February 3, 2006 – David Matthews has joined J.C. Renfroe & Sons, Inc. as Director of Engineering, Research and Development, announced Anne Renfroe, president of the company.

Matthews, who has been a mechanical engineer for over 30 years, will be responsible for all aspects of research and development, including the development of new products for both the Renfroe clamp line and the new line of Renfroe Too products, as well as overseeing the engineering and quality control of existing and updated products. He will report to plant manager Jack Seibert.



For the past two years, Matthews has served as an in-house engineering consultant for Renfroe working on popular industrial lifting products such the best selling FR clamp and Renfroe Too's new snatch block. Prior to working with Renfroe, Matthews worked as a consulting engineer since coming to the U.S. in 1986.

He was educated as a mechanical engineer in Wales and held a number of managerial positions directing the design, engineering, manufacture and application of new and existing products in the United Kingdom.

"We are on a very aggressive growth track," explained Anne Renfroe. "We have introduced a new line of lifting products and we are expanding our market throughout the world. So it was important for us to have someone with outstanding credentials on staff to oversee the development of new lifting and construction products that satisfy the application needs in the U.S. and abroad. David is the caliber engineer we need for our growth."

J.C. Renfroe & Sons, Inc., headquartered in Jacksonville, Florida, is a leading international manufacturer and marketer of industrial lifting clamps and lifting equipment products. Additional product information is available at [www.jcrenfroe.com](http://www.jcrenfroe.com).

## PRESS RELEASE

### From CHICAGO HARDWARE & FIXTURE COMPANY

Chicago Hardware & Fixture Company, of Franklin Park, Illinois, proudly announce a new addition to its sales staff. As of January 1, 2006, Jim Canfield assumed territory responsibilities of the Chicago Line for selected Chicago Metropolitan, Iowa, and Wisconsin areas. Jim, will additionally become Regional Sales Manager for part of the East Coast and New England areas, directing several manufacturing representative agencies.

Jim brings a strong background in the industrial and fastener distribution fields. His years in the business, and understanding of the fastener, industrial, and rigging hardware needs for Chicago Hardware customers will offer our distributor partners the ability to consolidate several areas of procurement.

Chicago Hardware & Fixture Company is a 92 year old USA manufacturer of quality forgings and wire forms. Items such as eyebolts, u-bolts, shackles, turnbuckles, wire rope clips, threaded rod, shapes and angles, etc., carry the banner of Proud to say, made in the USA!

For additional information please contact Jim Sullivan, National Sales Manager at Chicago Hardware & Fixture Company directly at (847) 455-6609, or [info@chicagohardware.com](mailto:info@chicagohardware.com).

## NEWS RELEASE

Terry Simmons, President of Reel-O-Matic, recently announced that the company now offers a complete line of Simplex brand heavy duty mechanical reel jacks. He stated this new line broadens our customers' choices and more completely addresses their specific requirements when selecting reel jacks.

Four models with capacities to support reels up to 40,000 lbs. x 96" O.D. are available. Large wooden bases and low handle efforts enhance safety and reduce operator fatigue.

Reel-O-Matic will continue to manufacture its exclusive L-Series cable drum jacks which are hydraulically activated. Please contact [www.reelomatic.com](http://www.reelomatic.com) or call (800) 221-7335 for all of your reel and flexible material handling requirements.

Shown is Model 321B Simplex Reel jack, which are standard equipment at most electric utilities and wire rope sling manufacturers.

## Confidentiality Policy for AWRF Membership Roster

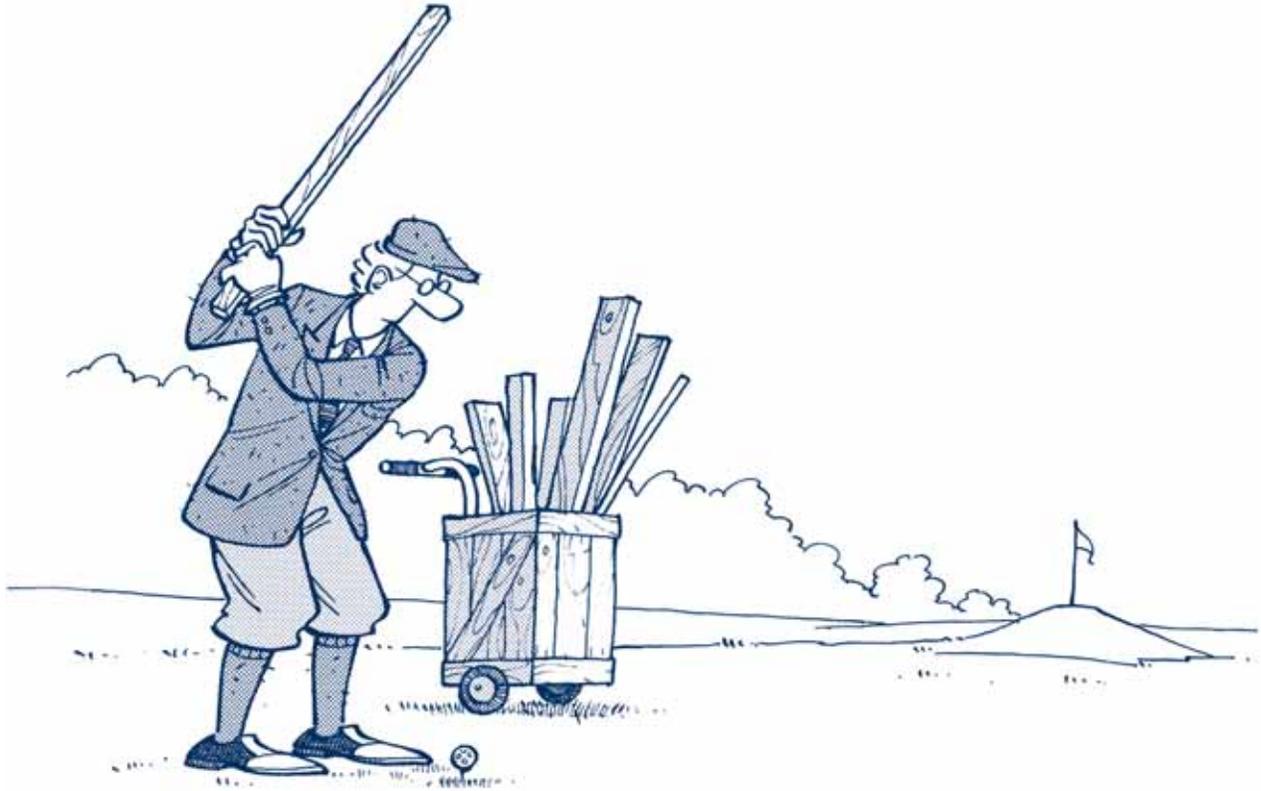
### Improper Use of Roster

The Association membership roster is for the convenience and exclusive use of AWRF members and is confidential information. Members and their agents are prohibited from providing the AWRF roster (in any format, including, but not limited to, electronic or hard copy of the membership directory) to non-members of the Association, without the written permission of the Board of Directors.

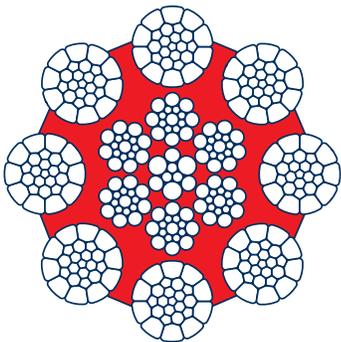
## Notice of Government Affairs Briefing

The annual AWRF GAC briefing for AWRF members and guests will be held at the U.S. Chamber of Commerce in Washington, D.C., on October 6, 2006. As always, the array of professional speakers will provide stimulating and valuable material. Plan to attend and give your business a competitive edge. Contact Barry Epperson at 918.585.5641 for further information. Details will follow.

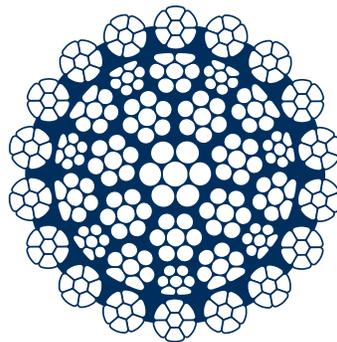
# Bought a *cheap* product again?



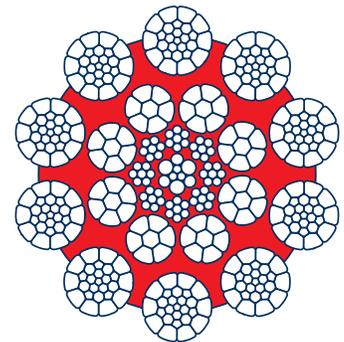
With golf-clubs, and especially with steel wire ropes, you will soon have a handicap.



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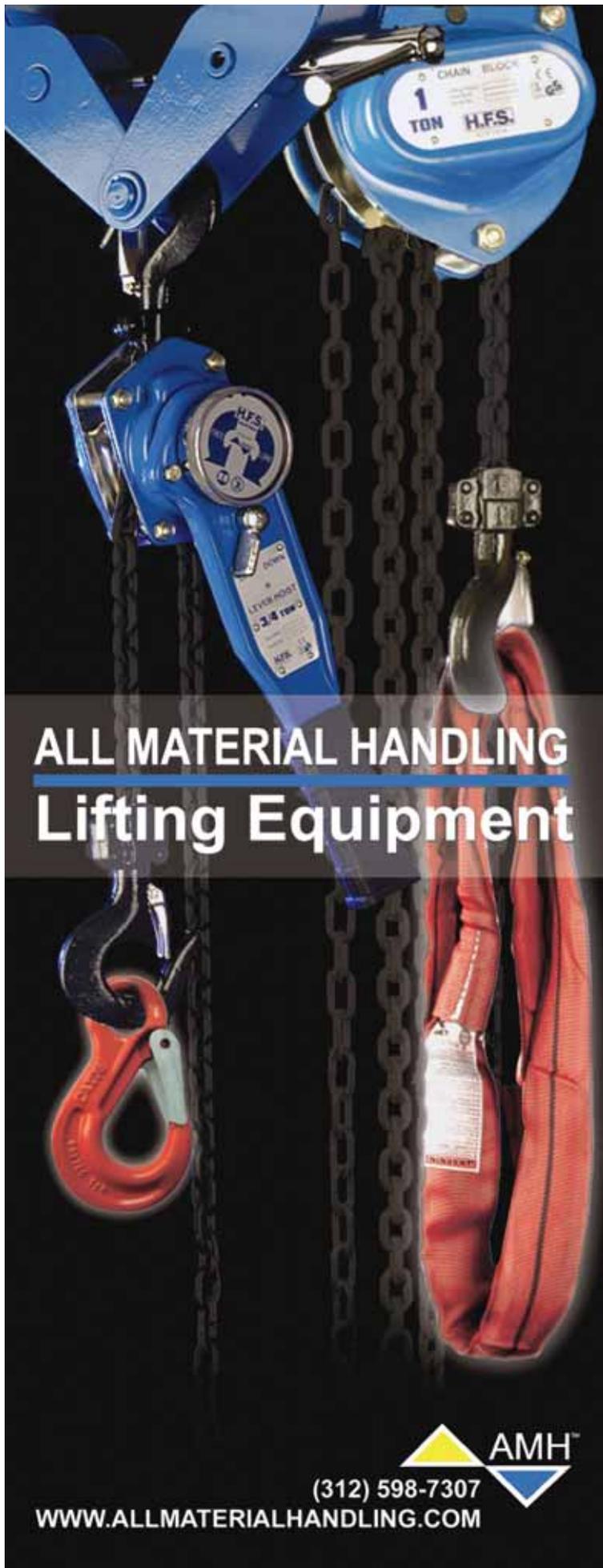


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## ASME B 30.10 Hooks Update

“What is the allowable wear for my hook? How much can my hook be bent before it should be removed from service? What should I look for when performing inspections?” These are questions that are regularly asked regarding one of the most versatile lifting devices available. Hooks of all types are used in countless applications throughout the lifting industry. By the very nature of overhead lifting, each application is critical. Their continued safe usage is largely dependent on adequate inspection and proper application.

ASME B30.10 Hooks is a frequently referenced safety standard that addresses markings, construction, inspection, testing, maintenance and operating practice of hooks used with equipment described in other volumes of the B30 Safety Standards. After approximately ten years without notable modification, several changes have been made to the B30.10 Hooks standard. The date of issuance of the new standard is December 5, 2005, and it has an effective date of December 5, 2006.

Along with minor editorial changes, the new standard modifies the amount of increase in the throat opening, as well as the twist that is permissible in the hook. The new definitions are shown in four places of Chapter I0-1 and I0-2 under Periodic Inspection, and Maintenance paragraphs. The standard now reads as follows:

Hooks having any of the following conditions shall be removed from service until repaired or replaced.

- (1) Deformation. Any visibly apparent bend or twist from the plane of the unbent hook.
- (2) Throat Opening. Any distortion causing an increase in throat opening of 5%, not to exceed 1/4" (or as recommended by the manufacturer).

The modification to B30.10 was requested and initiated by industry organizations to better define inspection criteria when performing the required initial, frequent, and periodic inspections. Additionally, there is an increased industry awareness that if deformed, the hook is giving signs that the system has been overloaded, and needs review by a qualified person. The new definitions more closely reflect manufacturers' recommendations with regard to allowable deformation of the hooks, and at the same time still provide the users with acceptable tolerance applicable during normal usage conditions. Additionally, it provides better definition of accept/reject criteria to the field inspector of the hooks.

In summary, ASME B30.10-2005 Hooks contains useful information pertinent to hooks, for manufacturers and users alike. The recent improvements further align it with industry practice and manufacturers' recommendations to provide a better safety standard. Although the B30 standards do not have the effect of law, they are typically referenced in OSHA documents. ASME B30 safety standards are maintained by The American Society of Mechanical Engineers, under the procedures accredited by the American National Standards Institute (ANSI). They consist of 28 volumes that cover cableways, cranes, derricks, hoists, hooks, jacks, and slings.

Paul Boeckman, P.E.

ASME B30.10 Subcommittee Chairman

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## Update on 2006 Roebling Anniversary Planning

Some of the plans to celebrate the 200th Anniversary of the birthday of John A. Roebling have been modified. Roebling was the founder of the USA wire rope industry. He was born in Mühlhausen Germany in 1806, and he immigrated to Saxonburg, Pennsylvania with his older brother Carl in 1831. He relocated to Trenton NJ in 1849 where he established a wire rope factory that thrived until 1973.



The museum exhibit originally scheduled for Berlin has been relocated to Mühlhausen, opening June 11, immediately following a two-day conference on construction history, honoring Roebling, at the Fachhochschule Potsdam June 9-10. For more details, contact the organizer Prof. Dr. Andreas Kahlow. e-mail: [kahlow@fh-potsdam.de](mailto:kahlow@fh-potsdam.de)

On July 13, AWRF Pres. Mike Wallace, Loos & Co, Pomfret CT is organizing a special celebration at the Allegheny Portage National Monument near Cresson PA, the location where John A. Roebling's first successful wire rope was installed in 1842. Loos is fabricating a stainless steel replica of the 7 by 19 left regular lay wire rope with intent to donate a section of the rope to be placed on permanent display in the National Park Service's Museum on the site of the Allegheny Portage Railroad. The museum already has constructed a full-size replica of the machinery at the head of the incline where the load was balanced on the ascending/descending self-acting device. The replica is reeved with hemp rope which Roebling replaced to improve its service life.

In Brooklyn NY, Friday October 27, the History & Heritage Committee of the American Society of Civil Engineers will organize a one-day symposium honoring John A Roebling's birth, followed by weekend tours of some famous Roebling locations. The conference will be held at the New York Marriott at Brooklyn Bridge Hotel. The bus tours on Saturday and Sunday will feature such historic sites as the Brooklyn Bridge, the Trenton factories, and the Delaware River aqueduct. The conference begins with a social gathering at Brooklyn Polytechnic on Thursday October 26. For more information, view the ASCE website ([www.asce.org](http://www.asce.org)) - click on the "conferences tab" at the top of the home page, then scroll forward by date.

# Tackling tackle



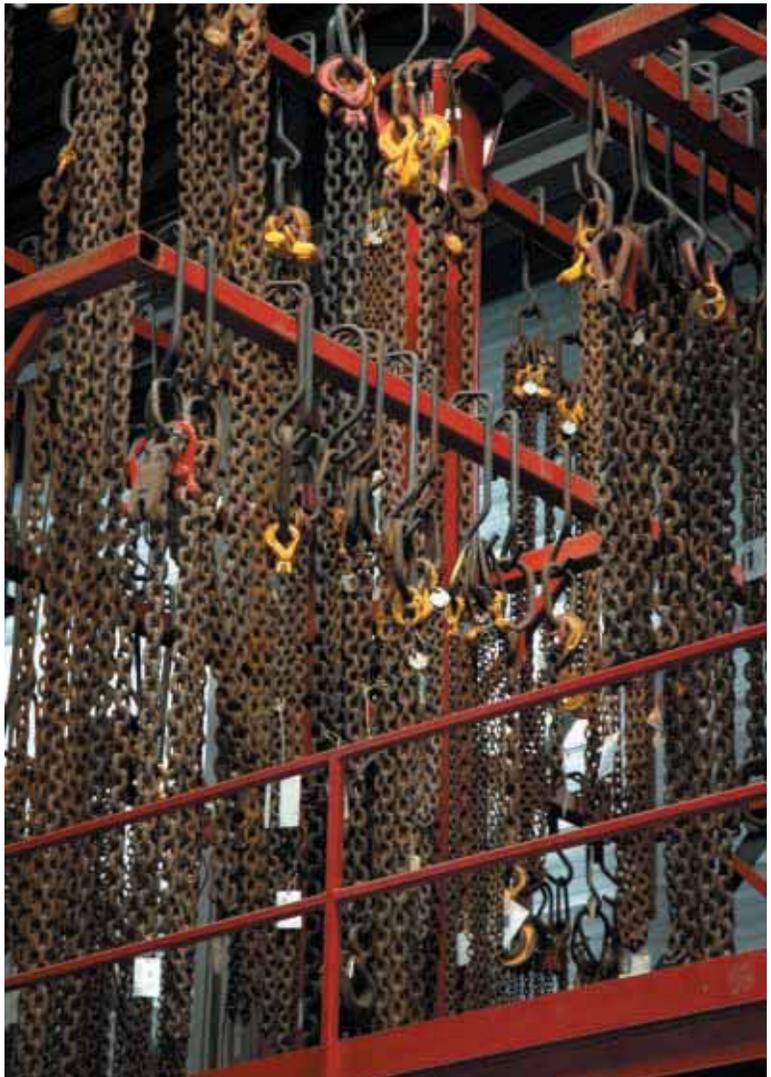
Managing your lifting tackle effectively can have a dramatic impact on accident rates, says **Derrick Bailes**

**W**hen it comes to lifting tackle, there are essentially four key factors that affect safety, namely the suitability of the equipment, its quality, its condition, and the way it is used.

**Suitability:** When we talk about suitability, many people think in terms of the basics. Is the sling long enough and strong enough? While it is true that a good slinger can lift almost anything with a range of general-purpose equipment, it is certainly not always the most efficient or safest method. Moreover, for a repetitive series of lifts, it often takes longer to position the sling and get it just right every time.

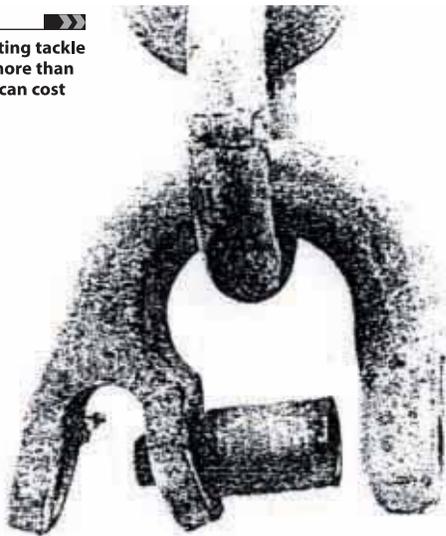
I therefore urge those planning lifting operations to widen their thinking beyond the everyday equipment. Even within the readily available range of off-the-shelf equipment there is a wide variety of special-purpose equipment, but for some jobs the planner should be thinking of bespoke equipment.

This does mean planning further ahead. It is true that major lifts are usually planned in considerable detail well in advance. Even for the more routine lifts, someone usually thinks early on about the capacity and reach of the crane required, but as for how the load and crane are connected, it is often left to



Below the hook equipment can have a hard life that can be shortened by misuse. Proper storage, as in this example, can extend the life of equipment considerably

Broken lifting tackle can cost more than money; it can cost lives too



the people on the ground on the day of the lift. It is still one of the most common complaints I hear in the industry that the lifting tackle is left to the last.

Even when general purpose equipment is suitable, there is often only a poor selection available. Last minute lash ups made under pressure of time and money are a common cause of accidents.

Often the problem arises because the designer of the load hasn't thought about how to lift it. The provision of a lifting point, often at very little cost,

would have eliminated most of the risk.

It is not always possible to provide lifting points, but we still see loads such as pipes being lifted with standard sling hooks jammed over the pipe end with the load on the tip of the hook. Yet, pipe hooks are readily available, designed for the job.

#### **HOLDING THE BUNDLE SECURELY**

We see bundles of materials such as reinforcing bar being lifted in a simple choke hitch which the slinger tightens by

battering it down with a piece of wood or scaffold pole causing local overload. With a long enough sling leg, a full wrap and choke hitch would hold the bundle much more securely without overload.

We see loads lifted into positions where access to release the slings is difficult or where there is a risk of the slings being trapped. Then we see operatives resort to crude and potentially dangerous methods to release the slings and get them out.

However, it is when lifting loads without lifting points and which can't be hooked into or wrapped by the sling that the more specialised equipment comes into its own.

I've mentioned the major lifts, but increasingly employers have to consider and control the risks arising from manual handling and there is a wide range of equipment now available to mechanise the relatively minor jobs previously done manually. Much of this specialist equipment is available for hire so capital cost should not be a problem.

The message is:

- Plan ahead.
- Specify lifting points on the load if possible.
- Consider how to:
  - connect, set down and release the load, and
  - think widely about the equipment.

**Quality of equipment:** By this, I mean the fundamental quality as designed and manufactured rather than the state of repair, which I shall come to next. There has probably never been such a diversity of quality on the market as there is today, and regrettably the buyer's specification for lifting tackle is all too often minimal, and the key deciding factor in the purchase or hire of equipment is the price.

So the trade gets asked for a two-leg chain sling SWL 7.5t, 2m long, or a hand chain block SWL 1t, 3m height of lift. There is no reference to a standard or any other technical requirements. Needless to say, you get what you pay for.

But if you are operating, for example, outdoors in winter in northern Europe, the equipment is likely to experience temperatures at which some materials have little resistance to shock load.

As well as low temperatures there are a host of other environmental and local conditions including sunshine, heat, chemicals and pollutants which can adversely affect the materials.

Finally, there is the question of durability. Equipment such as a hand chain block used to be made for regular and prolonged use. Adequately maintained, they would literally last a lifetime, but they were expensive and heavy. Today, they are used as portable tools and weight matters, but the quality of some is such that they need frequent

inspection to ensure safety.

Even when equipment purports to be to a standard, it is not always what it seems. The quality of the standards themselves sometimes leaves a lot to be desired. In Britain, we traditionally had fully detailed standards with full dimensions and tolerances and full material specifications but some manufacturers and suppliers, particularly those importing from Asian sources, started to make claims such as 'generally in compliance with' the standard, which over time often came to mean that all they complied with were the nominal dimensions.

Again, within the ISO standards there is often considerable scope for variation of quality. Many older ones are rather loose performance-based standards which, to be accepted worldwide, were often the lowest common denominator rather than the best technology of the day.

In Europe today we have among the best quality standards with clear and verifiable requirements, which are being widely adopted in many parts of the world. But, and it is a big but, there are still manufacturers who from carelessness or other motives claim their product complies when it does not. We had a recent case of this in the UK with webbing slings supposedly to the European standard, but failing in one case at half the required load.

The message is:

- Specify fully.
- Put requirements first and price second (quality is remembered long after price is forgotten).
- Ensure what you get is what you specified.
- Beware of very low prices.

#### **BELOW HOOK KIT HAS A HARD LIFE**

**Condition of the equipment:** Below hook equipment can have a hard life that can be shortened by misuse. There are a lot of things that can cause a crane to fail, particularly a mobile or tower crane, where ground conditions and weather can have a significant impact. However, once safely erected and commissioned, unless a crane is overloaded or deliberately abused, it operates in a relatively controlled environment and there are relatively few things that can go wrong on a day to day basis. This is particularly true of an overhead crane or hoist in a factory.

However, by comparison to the crane, a sling or other lifting accessory is more vulnerable to damage. Remember also that the sudden release of the load if the lifting tackle fails can have a catastrophic effect on a counterbalanced crane.

Frequent in-service inspection is vital. A well trained slinger should know what to look for, and be able to quickly cast



their eye over the equipment every time it is used.

Here, I want to make an important point about the culture of the user organisation. No one likes to be blamed for making a mistake so it is vital that, when it comes to accidentally damaged lifting equipment, there is a no blame culture. This is not to encourage carelessness, but to ensure that damaged equipment is not kept in use or left available for others.

It also means having some spare equipment available, particularly that which is most vulnerable. It is not that expensive in the broader context of other costs.

**How the load and crane are connected is often left to the people on the ground on the day of the lift**





Most countries require a formal inspection of lifting equipment at regular intervals, and usually also require a record to be kept

By comparison to the crane, a lifting accessory is more vulnerable to damage

As well as accidental damage, most equipment requires some form of maintenance to keep it working safely. Even a simple sling might need cleaning and drying. Mechanisms such as those in a clamp or a chain block need to be free of corrosion to operate satisfactorily but it is necessary to ensure that the methods used are not in themselves the source of further problems.

#### FORMAL EQUIPMENT INSPECTION

Most countries require a formal inspection of lifting equipment at regular intervals usually also requiring a record to be kept. In the UK, we have had such a system for many years. To emphasise the nature of the inspection, and to differentiate it from that normally

done by the day to day user, we call it a thorough examination.

The maximum period between thorough examinations of lifting tackle is normally six months. The thorough examination is intended as a long stop measure. Indeed, if when examined the equipment is found to be dangerous, it means that the in-service inspection and maintenance regime has failed and, in the UK, it is reportable to the enforcing authorities.

This approach of frequent in-service inspection coupled with a maintenance programme and backed up by a regular in-depth inspection is good practice whatever the local regulations.

Lastly, ensuring that the equipment is fit to use includes storing it in a manner

that prevents deterioration and accidental damage and usually it also means preventing unauthorised use, an all too frequent cause of damage as well as loss.

A control and issue procedure is desirable. If the size of the operation justifies it, a controlled store is ideal, but if not then at least a lockable container with access restricted to identifiable persons. Someone should be responsible for ensuring that the equipment has been inspected and maintained and is fit for service. In the offshore industry containerised rigging stores are common, but they can be equally valid on a construction site or in a factory.

Within the store, equipment that is not fit for service should be separated and securely quarantined to prevent accidental use.

The message is:

- Check before each use and after any incident.
- Encourage a no-blame culture.
- Have a regular inspection and maintenance regime.
- Have spare equipment, at least for the most vulnerable items.
- Have a formal 'long stop' inspection at least every six months.

**Use of equipment:** I've already made the point that the way in which lifting tackle is used can result in failure even if the equipment is suitable for the purpose, and the load being lifted is within the safe working load. This article is not about how to use the equipment, but it is worth highlighting the main causes of failure. Essentially, there are three:

- Errors in the geometry of the arrangement.
- Equipment damaged by sharp edges.
- Excessively high dynamic loads, ie shock loading.

It is essential that the slinger has an adequate knowledge of these causes, and knows how to avoid them or compensate for them.

#### RESPONSIBLE PEOPLE

Each factor affecting safety that I have outlined above needs to be the responsibility of people who are sufficiently knowledgeable to carry them out properly. The planner, the specifier, the buyer, the inspector, the maintainer, and the slinger all need appropriate training, but consider also the attributes required of the person, in particular the physical abilities such as eyesight, balance and most important their attitude. Training can enhance knowledge and skills, but cannot change the fundamentals. It is also important to verify that the training has been effective. 

*The author is chief executive of the UK-based Lifting Equipment Engineers Association*

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45-8* (1.77in)	F01529	F01530	F04814	5.319	1.911	88,000	30.574
50-8* (1.97in)	F01534	F01535	F04838	5.910	2.128	110,200	37.629
56-8* (2.21in)	F01539	F01540	F04889	6.619	2.403	138,900	48.716
63-8* (2.48in)	F01545	F01546	F04900	7.486	2.660	176,300	59.804
71-8* (2.80in)	F01555	F01556	F04908	8.274	2.979	220,400	73.915
	--	F01566	--		3.467	275,500	
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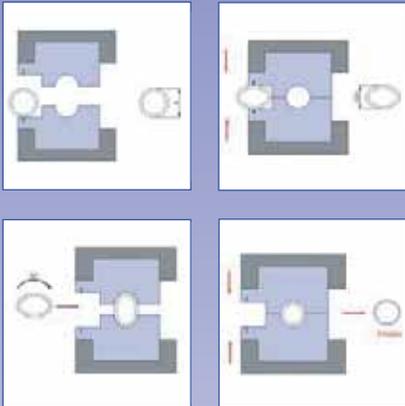
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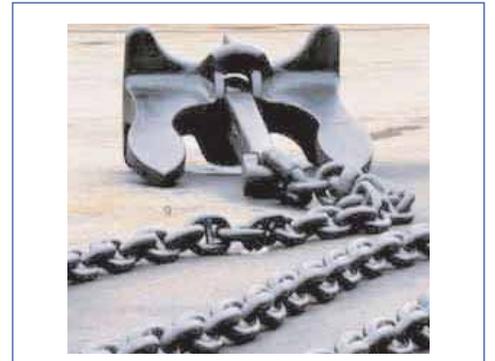
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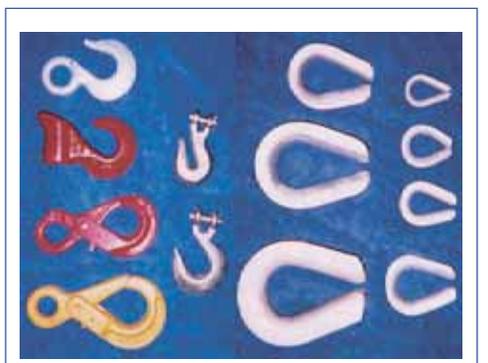
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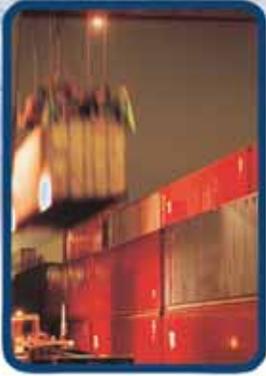
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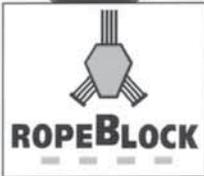
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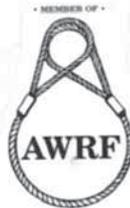
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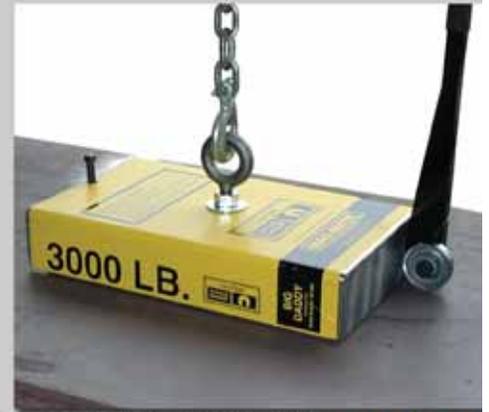


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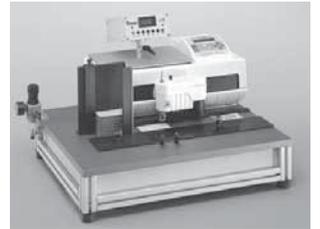


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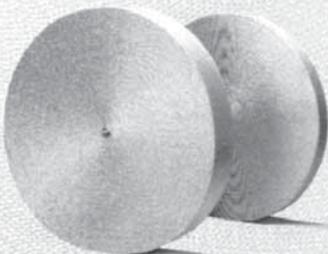
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# GOVERNMENT AND MILITARY PURCHASES OF WIRE ROPE

Continued from page 7

Item (b) above relates to stainless steel wire rope. Carbon steel does not fall into the “specialty metals” bucket. This means that the raw material, Stainless Steel Wire Rod (SSWR), must be melted in the United States. There is an exception here; the military allows the stainless wire rod from a number of European countries to be considered acceptable. They call these countries “qualifying countries”.

The DFAR clause that incorporates this is DFAR 252.225-7014, Preference for Domestic Specialty Metals. There is an additional kicker on this one that is called “alternate I(alt.I)”. The military has designated six major weapon systems, Aircraft, Missile and Space Systems, Ships, Tank-Automotive, Weapons and Ammunition where a large business contractor (such as Boeing, General Dynamics, etc.) must flow-down this requirement in its sub-contracts and those sub-contractors must continue to flow it all the way down.

The vast majority of the military purchases of wire rope, cable and wire rope assemblies are made by the Defense Supply Center – Richmond ([www.dscr.dla.mil](http://www.dscr.dla.mil)). Almost all of their purchases are 1) Small Business Set-asides and 2) incorporate the “Buy American Act”. We have received a sharply increasing number of quote requests where this requirement is being cited. Some simply call it DFAR’s compliant wire rope, some give more detail and even give us the clause number and name. But some just say “I need domestic rope” A number of AWRP rigging member companies have been asking for this material.

You really need to know what you’re buying or what you’re selling to be in compliance with the FAR and DFAR regulations. I’ll site a few examples of what I’m talking about. Several years back, one of our AWRP members had a contract for wire rope netting. It required quite a large quantity of 5/16” cable. The company knew they needed to have domestic cable because it was a California DOT(CDOT) job. They ordered domestic from one of their regular wire rope suppliers, fabricated the nets and shipped them to the job site. Low and behold, a state inspector asked to see the domestic mill certifications for the wire rope. The fabricator contacted their supplier and asked for the certs. Long story short, the supplier had substituted import wire rope instead of supplying domestic wire rope as had been ordered. CDOT rejected the whole lot of netting back to the fabricator and they had to start over from scratch. They incurred a huge loss on the job because they didn’t verify that they had received what they had ordered.

Last summer Loos received an order for stainless steel mil-spec wire rope assemblies. Our customer had been clear to put on his purchase order “domestic”. Of course it would be domestic since there are no foreign manufacturers of MIL-DTL-83420 wire rope. We didn’t think much of it. We made the rope, fabricated the

assemblies and shipped them off to our customer. It was a sizeable order, approaching \$25,000. A few weeks afterward our customer called and said the end customer wants to see the melting mills certification. We sent it off to him as requested. We had purchased the stainless rod from Spain. The ultimate customer was the Illinois DOT (IDOT). They had expected the material to be domestic melt because of the Buy American Act. Our customer never passed that fact along to us. He had only asked for domestic wire rope. IDOT still has not released shipment of the assemblies so our customer who has \$1,000,000 tied up in other components, hasn’t been able to ship or bill his customer. Of course he hasn’t paid us yet either and it’s going on 5 months since our shipment!

Recently Loos received an order for 7,500 feet of 7/8” 6x37 Type 316 stainless wire rope. The customer had merely asked for “domestic” wire rope. It looked a little fishy to me after my experience with IDOT! I had our sales department go back to the customer and advise them that we would be using imported stainless rod to draw the wire from and fabricate the rope. They said fine so we asked them to put it on their purchase order which they did. Two days later they called and asked us “What percentage of your cost is the stainless rod?”. Right then I knew they were dealing with the Buy American Act. Needless to say the order is now on hold until our customer gets a waiver for us to use the imported rod. The imported rod cost as a percentage of our overall cost is well above the 50% threshold to qualify the wire rope as a “domestic end product” under the Buy American Act despite the fact that we are drawing the wire and doing the stranding and closing of the wire rope. Additionally, the lead time for domestically melted stainless rod is too long, extending the lead time by an additional 10 weeks. The ultimate customer is the New York/ New Jersey Transit Authority, a state entity that incorporates the FAR and thus the “Buy American Act” in their contracts.

In closing, I just want everybody to know what they are dealing with when selling to Federal and State governments or to the military. Buyers must be aware when the requirements are to be in compliance with these regulations and flow the requirements down to their wire rope supplier. Otherwise, manufacturers won’t be able to quote or manufacture the correct product. Everybody must be familiar with a term like the Buy American Act; it has a meaning a lot deeper than just “domestic” wire rope.

I suggest you get your own copies of these documents and read through them thoroughly. There is a lot more to them than the broad brush I’ve given them here. They are available for free viewing and downloading here:

FAR – [HTTP://WWW.ACQNET.GOV/FAR](http://WWW.ACQNET.GOV/FAR)

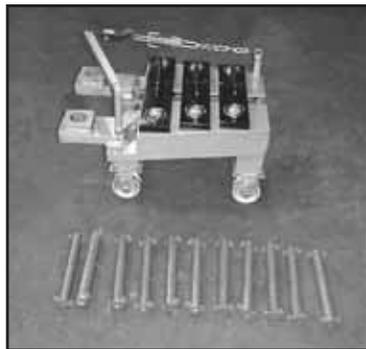
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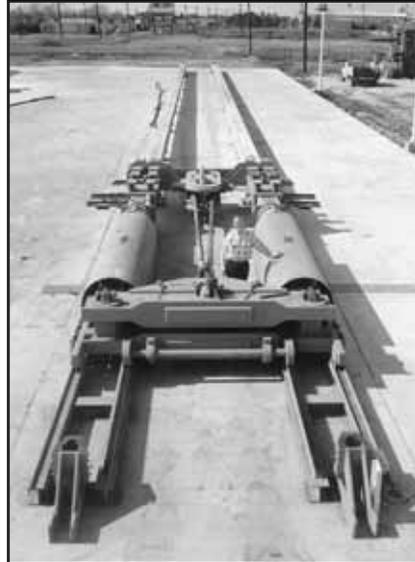
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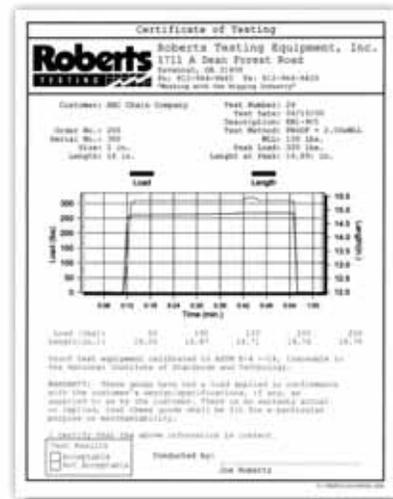
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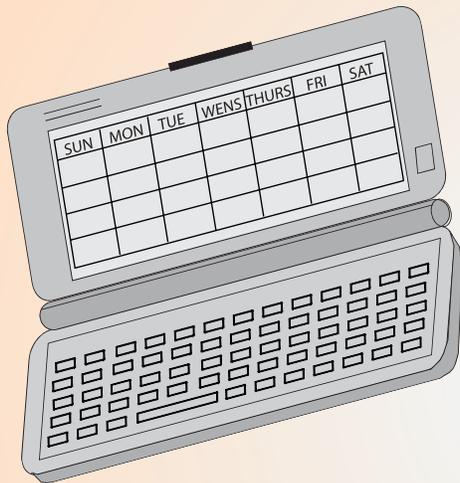
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- August 3-4  
AWRF Technical Meeting  
Novi, Michigan
- September 18-19  
ASME B-30 Meeting  
St. Louis, Missouri
- October 6  
AWRF Government Affairs Briefing  
Washington, DC
- October 22-25  
AWRF Fall General Meeting  
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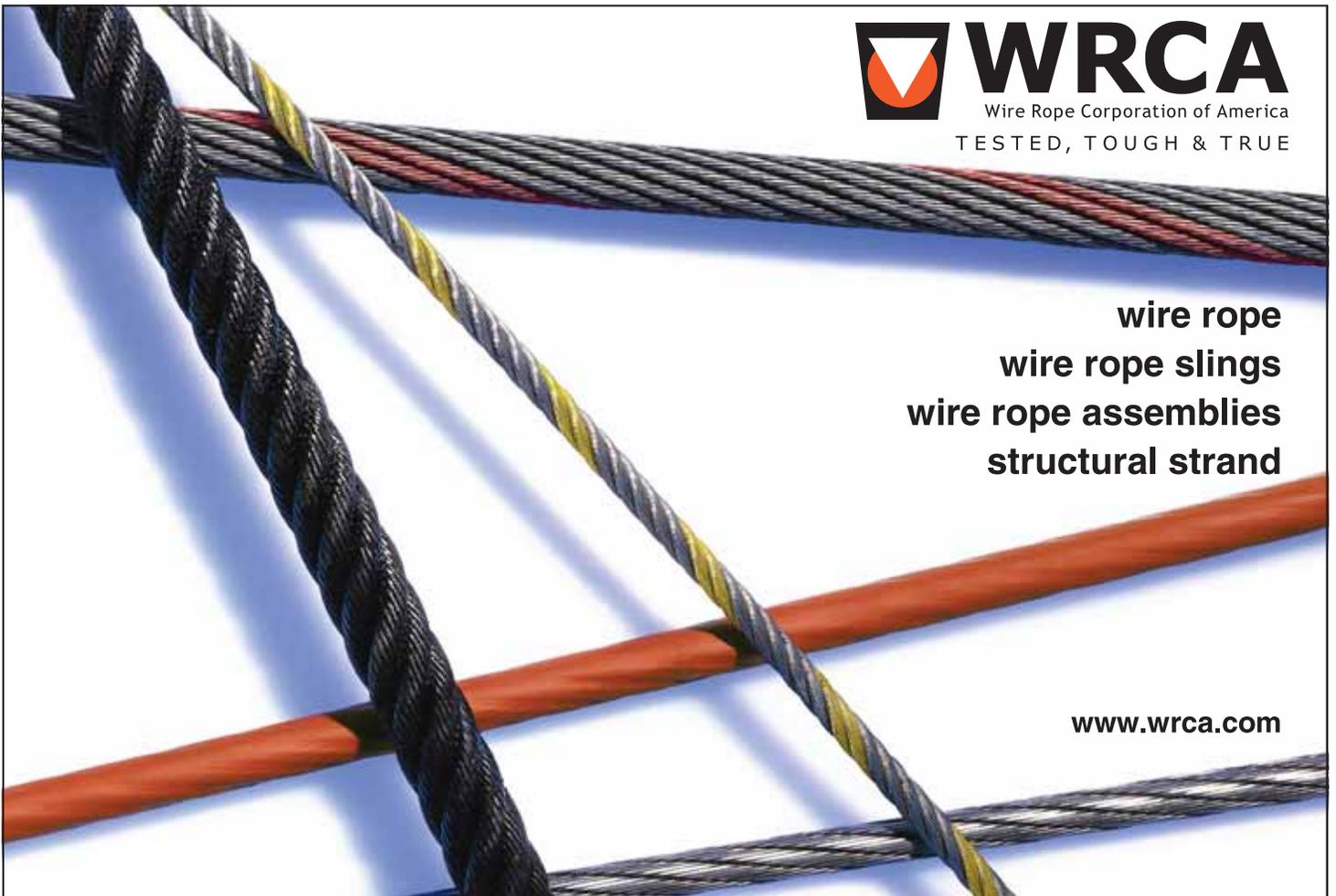
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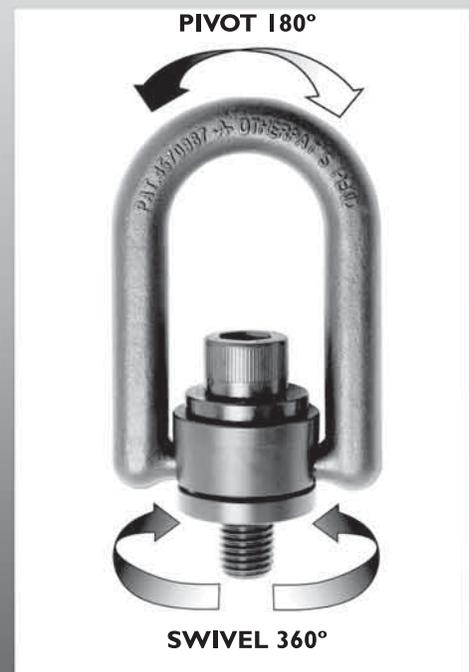
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