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The magazine for the crane, lifting and transport industry

A KHL Group Publication

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# uttling e shuttle!

Beyel Bros. hauls historic payload

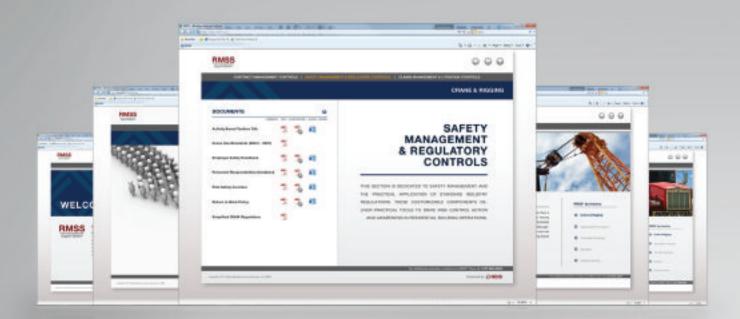
**Industry Focus:** Training, safety & certification

Boom truck market rebounds



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# Looking back

alk about interesting. Last month I spent a couple days digging through the archives of the SC&RA, reviewing more than 60 years worth of magazines that chronicled the people, jobs and equipment in the crane, rigging and specialized transportation industry. I learned many amazing things, first and foremost that our industry is and always has been a tight-knit group of innovators who are fascinated by doing the impossible. Industry leading names like Bigge, Bragg, Barnhart, Emmert, Lampson and Wilhelm, to name a few, have been major players for decades and likely will be for decade to come. It was interesting to read the editorials and realize that many of the obstacles and issues faced by previous generations of this industry are similar to those their sons and grandsons are facing today – ranging from permitting and uniformity to safety and training.

So why was I digging through dusty old magazines? The answer is exciting. KHL Group, which publishes *ACT* and our sister magazine *International Cranes and Specialized Transport*, has begun production on a new coffee table book for the SC&RA. We completed a similar project back in 2008 when we published *Lifting and Moving the World*, which celebrated the 60th anniversary of the SC&RA.

The new book, which doesn't yet have a title, will commemorate the SC&RA Jobs of the Year awards program. The JOY awards are an icon of achievement for those who toil in the realm of lifting, rigging and specialized transportation. Hundreds of jobs have been entered in the contest since it was introduced in 1965. The book will provide a compelling account of almost 50 years of the most amazing feats ever accomplished in our industry and will focus on the people, engineering and equipment that made these jobs possible. Companies will have the opportunity to underwrite the book through corporate profiles. Profiles are open to companies that have participated in the JOY contests — as a winner, entrant or as a supplier of equipment, expertise or services to winning or entered jobs. We will be talking more about this book in the coming months.

Back in December, photographer Julian Leek emailed me about a job she was shooting in Florida. Did I want to see pictures? Of course I did. The project, which involved Beyel Bros. moving a space shuttle model required innovation and keen engineering. See our Site Report on page 46. Also in the realm of science, Reynolds Transfer and Storage recently installed a huge space-ship looking sphere into a laboratory at the University of Wisconsin-Madison. See our Site Report on page 49.

This month we also offer comprehensive coverage in the realm of training, safety, inspection and certification with our Industry Focus that starts on page 31, and an analysis of the vibrant, (yes I said vibrant), boom truck market on page 28.

And finally, be sure let us know about what's going on with your company – jobs, people and equipment.

### D.ANN SLAYTON SHIFFLER

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### Crane portfolio













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**Using its 18-line Goldhofer** system, Beyel Bros. transports a space shuttle model to a barge dock. See Site Report page 46

















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Barnhart debuts new WesTrack trailer, Scheuerle introduces new Superflex trailer, new scoring feature from Field ID, Crane Rental Corp. expands and more industry news

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- Manitex International announced that it expects to report a consolidated order backlog of \$83.7 million as of Dec. 31, 2011. This is an increase of 33 percent from Sept. 30, 2011, a 110 percent year over year increase and represents an alltime high for the company.
  - Liebherr has established. a new mobile crane division within Liebherr Argentina in Buenos Aires. The division will be responsible for sales and service of Liebherr mobile cranes in Argentina and Uruguay. The distribution ageement of the mobile and big crawler cranes manufactured in Germany that were distributed in Argentina through Sudamericana de Equipos S.A. ended in September 2011. The new division will report to Liebherr-Werk Ehingen GmbH. Enrique Garnero is responsible for sales, and Michael Bucher heads the after-sales department.
  - Sterling Crane, a Marmon Construction Services/ Berkshire Hathaway company, announced an agreement for Sterling Crane (Australia) Pty Ltd to acquire Freo Group of Westem Australia and Global Cranes Pty Ltd of Queensland, Australia. Terms of the sale were not disclosed. Through Sterling Crane and its affiliates. Marmon Construction Services owns and operates mobile crane fleets in Canada, the U.S. and India, primarily serving the energy, mining and petrochemical markets. Based in Henderson, a suburb of Perth, Freo Group is a secondgeneration family business operating in Australia since 1974. Freo Group provides cranes and operators from branch facilities in key regional markets across Westem Australia and in Queensland through Global Cranes.

### Barnhart introduces WesTrack system





Barnhart Crane & Rigging has added the WesTrac Transportation System to its equipment inventory. Barnhart's engineers designed WesTrac together with Goldhofer. The Wes Trac. is a new class of dual-lane transporter with unique new features, the company said.

"Extremely heavy loads on public roads and across bridges pose challenges to meet Department of Transportation (DOT) requirements," said Jeff Latture, senior vice president of sales and marketing for Barnhart. "Traditionally, transportation systems relied on two-axle dollies. Those have allowed Barnhart to complete some of the heaviest long hauls in the U.S."

The WesTrac system incorporates the features of a modular platform trailer. However, the axle spacing and footprint are designed specifically to meet DOT

requirements for roads and highways on the West Coast. The system is designed for efficient mobilization, higher road speeds and variable widths to achieve dual-lane loading. In some configurations, the WesTrac system can handle payloads of more than 600,000 pounds.

"The addition of our Goldhofer WesTrac duallane transport system type THP/CA to Barnhart's cool tools inventory gives us the ability to transport over-dimensional and super heavy hauls," said Latture. "Barnhart's Long Beach, CA branch has a dedicated team that will provide planning and execution expertise with the new WesTrac System."

According to Latture, Barnhart also plans to introduce a new EasTrac system designed specifically to meet DOT requirements on the East Coast.

### Scheuerle rolls out new Superflex trailer

Scheuerle and its sister company Nicolas have developed a new type of semi-trailer with hydraulically movable axles. It is known as the "Superflex," and along with the standard version, other models such as "singletelescopic" and "doubletelescopic" are also available.

As the word "flex" in the name Superflex indicates, the Scheuerle and Nicolas semitrailer provides flexibility, making it possible for vehicles in the single-telescopic version to move the two front axle lines when telescoped between the gooseneck and rear suspension in 500 mm increments.

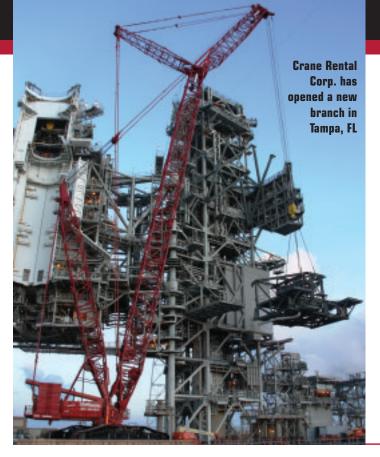
For vehicles with double-

telescoping function, the axles can be moved toward the gooseneck as well as to the rear suspension. With this feature, the company said it is possible to adapt the vehicle to suit the respective position of the payload's center of gravity, ensuring optimum utilization for each axle line.

The technical axle load of the Superflex varies depending on the type of tire used.

With 245/70-R17.5 tires, the technical axle load is 12 metric tons, which increases to 14 metric tons axle load when using 285/70-R19.5 tires. The power supply for the vehicle hydraulics is supplied either via the tractor hydraulics or by means of an external PPU (Power Pack Unit). As an option, an electric PPU can also be integrated into the gooseneck.





### Crane Rental Corp. expands

Crane Rental Corporation expanded operations with a new branch location in Tampa, FL. The facility includes a 3,200 square-foot office building, 10,000 squarefeet of shop/warehouse space and 7.5 acres of property.

"This new facility gives us the opportunity to be on top of our game and allows us to better manage our business," says Alan Ashlock, president. "Although we have provided crawler cranes and rough terrain cranes for 30 years in the Tampa area, we will now

seek to serve the taxi crane market as well. We are now able to respond timely in all facets of crane rental, heavy hauling and specialized rigging to the Tampa and Florida Gulf Coast market."

The company is also about to take delivery of a new Manitowoc 31000 (2,535 ton capacity) crawler crane, which offers a variable position counterweight and the ability to walk with loads. The crane offers some of the lowest ground bearing pressures in its class, Manitowoc said.

### New book commemorates SC&RA Jobs of the Year

In 1965, SC&RA began the Jobs of the Year contest, a program that has become highly revered in the crane, rigging and specialized transportation industry. To celebrate the Jobs of the Year program, SC&RA and KHL Group will produce a new coffee table book that will be published in April 2013.

The book will provide a compelling account of almost 50 years of the most amazing feats ever accomplished in the realm of specialized transport, rigging and lifting. Every winner of the SC&RA Job of the Year contest will be featured in the book - more than 200 jobs performed around the world from 1964 through 2011. Companies will have the opportunity to underwrite the book through corporate profiles.

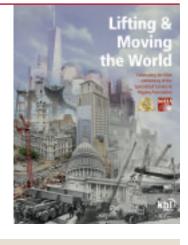
"Profiles are open to all member firms that have participated in the SC&RA Job of the Year contests – as a winner, entrant or as a supplier of equipment, expertise or services to winning or

entered jobs," says Trevor Pease, president and publisher of KHL Americas. "We are looking forward to producing a beautifully designed and edited book with lasting appeal for generations to come."

For more information contact

Bev O'Dell at bev.odell@khl. com or Pat Sharkey at pat. sharkey@khl.com.

In 2008, KHL Group published Lifting & Moving the World, a coffee table book that celebrated the SC&RA's 60th anniversary



### Linden Comansa improves load charts

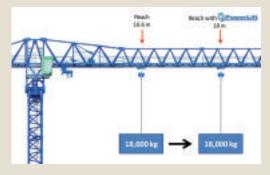
As of 2012, all Linden Comansa cranes in the series LC500, LC1100, LC1600, LC2100 and LC3000 will incorporate the new PowerLift system, which improves the load chart up to 10 percent with reduced speeds. With the incorporation of this system, the cranes will be able to move the rated load that is indicated in the chart to a major distance (reach).

Linden Comansa's research and development team has developed a system of control and limitation that by means of the automatic reduction of the speed of trolley and hoist, allowing the crane to achieve an extra load up to 10 percent more to do certain tasks.

This system does not allow the crane to have bigger maximum load capacity, but allows it to increase 10 percent the rated load that appears in the load charts up to the maximum load according to the data sheet, in the same way as it allows to displace the same maximum load to major reach.

For example: the 21 LC 400/18-ton tower crane, with 80 meters of jib length, can load 18,000 kilos up to a reach of 16.6 meters. With the PowerLift system, the crane will be able to load the same 18,000 kilos to a reach of 18 meters. And if this crane can load up to 3,000 kilos at the jib end, with the PowerLift system it will be able to load 3,300 kilos.

The new PowerLift system improves the load chart up to 10 percent with reduced speeds



### New scoring feature from Field ID

Field ID, a provider of cloudbased safety compliance management software, has introduced a safety inspection and audit scoring feature that enables Field ID to be customized to a company's safety scoring process.

Field ID has always offered the ability to tailor inspection checklists, but until now scoring on each criteria used a pass-fail system. While this meets the needs of most businesses, many safety and inspection professionals use more complex systems,

including sliding numeric scales and checklists that place greater weight on critical safety measures. Field ID now provides sliding scales and automatically calculates scores according to the weighting specified by users.

Field ID combines webbased technologies with mobile devices and RFID/ barcodes to improve the efficiency and reporting of workplace safety management.



Manufacturers, distributors, third-party inspectors and end users use Field ID to inspect facilities and equipment, improve training management, and track assets such as cranes, slings and harnesses.

### Manitowoc 7000 helps in bridge construction

A Manitowoc 7000 is playing a key role in the construction of a two towers that will support a new \$229 million cable-stayed bridge in St. Louis, MO.

The Manitowoc 7000 is pedestal-mounted on a 93-foot by 195-foot barge. It is being used to lift preassembled rebar cages that will form the base for the two 406-foot towers. The crane will perform more than 70 rebar cage lifts, weighing from 45,000 pounds to over 100,000 pounds.

The crane is configured with 325 feet of main boom and a 60-foot jib. As the project progresses, the crane will be reconfigured with 400 feet of main boom and 60 feet of jib.

Kansas City-based Massman Construction, which owns and operates the crane. is the lead contractor in a joint venture, which includes Traylor Brothers and Alberici Constructors.

After the towers are complete, the crane will be used in conjunction with other Manitowoc crawler cranes to lift field sections into place for the bridge span. These sections measure 50 feet long by 94 feet wide and weigh 200,000 pounds.

The Mississippi River Bridge project is a new four-lane bridge connecting downtown St. Louis and southwestern Illinois. With a 1,500-foot main span, it will be the thirdlargest cable-stayed bridge in the U.S. The bridge will be open to traffic in 2014.

### JD Neuhaus delivers new crane system for offshore drilling rig

The largest crane system constructed to date by I D Neuhaus has been delivered to Westcon Lofteteknikk AS (WCL) of Norway for use on an offshore drilling rig. The semi portal design comprises an A-frame supporting twin overhead horizontal track beams providing a 24.6-foot (7.5 meter) span.

The crane has an approximate height of 37 feet (11.5 meters) with a total weight of 32 tons. It is

equipped with JDN hydraulic EH 40-H monorail hoists operating on each of the twin beams, each hoist providing an individual lift capacity of 40 tons. These hoists can be operated individually or simultaneously from one control, and when used in conjunction, a total lift of 80 tons is possible with a 39-foot (12 meter) lift height being available. A JDN Profi 6 TI-H hoist with 6-ton lift capacity is also provided to cover

other operational or service requirements.

The energy supply system, which was designed and manufactured by JDN, incorporates four hydraulic drives provided for the crane travel movements. The primary radio crane controls also have a back-up system fitted to cover any radio control panel failure.





The A-frame and track beams were assembled in Norway before the crane system was transported to the rig

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There was something of a New Year rally on the stock markets as 2012 began, but the heavy equipment sector looked like it was left behind. Chris **Sleight** reports

# New Year cheer's

merican stock market indicators looked like they were beginning to climb out of a hole as 2012 got under way. As our graph illustrates, following the low point over last summer, when the debt ceiling crisis was coming to a head, the mainstream indicators have managed some moderate gains.

It has been far from plain sailing. The debt crisis in the Euro-zone has had an impact on markets on this side of the Atlantic, and this has certainly taken some steam out of the recovery. Although Europe's debt problems are far from resolved, the region's politicians have at least managed to head off the threat of a catastrophic default by Italy, which was a real threat for a time at the end of 2011.

This has allowed the mainstream benchmarks to climb back into the black on a rolling 12-month basis, but not so the *ACT* Heavy Equipment Index (HEI), which is down some 13 percent on a year-onyear basis. Compare this to the Dow's performance, which is up nearly 6 percent compared to 12 months ago.

Although the HEI was able to bounce back sharply after the August crisis, it has not done much since, and whereas the last few weeks have seen the wider markets rally, heavy equipment stocks have, if anything, fallen away again.

It would be a mistake to read too much into this. The Christmas and New Year period is characterized by relatively light volumes. On any given day, value of stocks traded in the HEI is usually anywhere between \$1.2 billion and \$1.6 billion, but in December it averaged just \$1 billion, and at times was at little as \$600 million.

So with as little as a third of

the normal trading volume going on, the *ACT* HEI does not perhaps reflect the full view of the markets over the holiday period, but it is none the less a cause for concern.

The cyclical nature of the HEI means it should be shooting up at the first signs of a rally and outstripping the gains of the major markets. The fact that it hasn't done this, perhaps indicates that market sentiment is perhaps not as strong as the New Year up-tick would suggest.

Certainly there are still plenty of concerns in the world. The U.S. and Euro-zone's finances may not be on the brink, but they are also far from resolved. As far as the markets are concerned, the full-year results season, which begins towards the end of January, will be crucial in showing whether these problems have filtered through to the real economy and hurt corporate earnings.

**ACT's Heavy Equipment Index** (HEI) tracks the performance of eight of America's most significant, publicly-traded construction equipment manufacturers – Astec Industries, Caterpillar, CNH, Deere & Company, Joy Global, **Manitowoc and Terex** 



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Crosby...The Market Leader Yesterday, Today and Tomorrow



Terry Young answers questions about OSHA's powered industrial trucks training requirements.

# Industrial truck training

he OSHA powered industrial trucks training requirements found in the 29 CFR general and construction industry standards specify that the employer must develop a complete training program. OSHA requires that operators of powered industrial trucks be trained in the operation of such vehicles before they are allowed to operate independently.

The training must consist of instruction (both classroom type and practical training) in proper vehicle operations, the hazards of operating a vehicle in the workplace and the requirements of the OSHA standard for powered industrial trucks. Operators that have completed training must then be evaluated while they operate the vehicle in the workplace. Operators must be periodically evaluated (at least once every three years) to ensure their skills remain at a high level. They must also receive refresher training or be evaluated whenever there is a demonstrated need. A near miss or accident would require the operator to be evaluated.

### WHAT DOES OSHA REQUIRE THE EMPLOYER TO INCLUDE IN THE CERTIFICATION THAT THE REQUIRED TRAINING AND EVALUATIONS HAVE **BEEN CONDUCTED?**

The certification consists of the name of the operator, the dates of training, the date of the evaluation and the identity of the person (s) conducting the training and evaluation.

### CAN AN EMPLOYEE BE ALLOWED TO OPERATE A POWERED INDUSTRIAL TRUCK IF THE EMPLOYEE **CAN'T READ?**

Yes, during training and evaluation, a determination must be made whether the employee has the knowledge and skills to perform the job. For example, if the employee cannot read and comprehend the operator's manual for the type of trucks the employee will operate, then this information must be taught by means other than having the employee try to read the trucks manuals.

### WHEN CAN A POWERED INDUSTRIAL TRUCK **OPERATOR TRAINEE OPERATE A POWERED INDUSTRIAL TRUCK IN THE WORKPLACE?**

An operator trainee can operate a truck only under the direct supervision of a person who has knowledge, training and experience to train operators and evaluate their competence, and where such operation does not endanger the trainer or other employees.

### WHAT INDUSTRIES ARE COVERED BY THESE TRAINING REQUIREMENTS?

The powered industrial truck operator training requirements apply to all industries in which the trucks are being used, except agricultural operations.

### **HOW COULD AN EMPLOYER DETERMINE THE QUALIFICATIONS OF THE TRAINERS?**

An example of a qualified trainer would be a person who, by possession of a recognized degree, certificate, or professional standing, or who by knowledge, training and experience, has demonstrated the ability to train and evaluate powered industrial truck operators.

### CAN TOOL BOX MEETINGS OR INFORMAL **DISCUSSIONS BE CONSIDERED** FORMAL INSTRUCTION?

Yes, tool box meetings or informal discussions can be considered formal instruction when the principles of safe powered industrial truck operations are covered by the designated trainer.

### CAN MY POWERED INDUSTRIAL TRUCK **OPERATOR TRAINING CONSIST ONLY OF** FORMAL INSTRUCTION SUCH AS WATCHING

No. OSHA requires a combination of formal instruction and practical training. Although formal training is invaluable for teaching the principles of vehicle operation, it is the handson training and evaluation of vehicle operation that finally proves the adequacy of the training and the ability of the employer to use that training successfully.

### CAN AN EMPLOYEE WITH POOR VISION IN ONE EYE OR A HEARING IMPAIRMENT BE ALLOWED TO OPERATE A POWERED INDUSTRIAL TRUCK?

The employer has the responsibility under the training standard to ensure each operator is capable of performing the duties that are required of the job. The employer should consult with appropriate medical personnel to assist in determining operator physical qualifications. The ADA (American Disabilities Act) permits employers to adopt medical qualification requirements necessary to ensure that an individual does not pose a "direct threat to the health or safety of other individuals in the workplace".

Don't miss our in-depth Industry Focus special section starting on page 31. Articles discuss how to use your training dollars wisely, the role of the assembly/ disassembly director on the crane jobsite, trends in crane inspection and certification updates. Plus, the special section features an exclusive listing of more than 90 safety/ training companies and organizations from throughout North America.



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### CCO Operator Profile:



### Simeon Crews

Simeon Crews has been CCO certified to operate all types of mobile cranes since 1999, but he has been operating crawler, hammerhead, luffing

jib, gantry, and other types of cranes for almost 32 years. Over the years he's done almost everything that can be done with a crane, including heavy construction, driving piles, running draglines, lifting clam buckets, drop balling, loading rail cars, and now loading and unloading ships.

He got his initial training through an apprenticeship program with I.U.O.E. Local 18 in Dayton, Ohio. There he discovered that he had hand, eye, and foot coordination required to operate cranes, even though the crane he was learning on was "old and beat up." He has remained a "permanent student" throughout his career, taking classes through the union whenever possible. He likes learning the technical side of crane operation because it gives him something to fall back on when contractors ask him to do something unsafe. He can explain why he shouldn't do it, whether that means showing them load charts, OSHA requirements, or the operator's manual, and his CCO certification backs up that he knows what he's talking about.

With all of his training, he was already well prepared to take the certification exams when CCO certification was introduced. Earning his CCO, though, made him "much more aware of why and why not certain actions are legal, dangerous, or safe." Plus, he says, "Others have confidence in my judgment because my CCO certification shows that I know my machine's limitations and the boundaries of its operating radius, and that I won't do anything that's unsafe."

He now works at a Jacksonville, Florida, seaport. "Based on my previous experience, safety record, and CCO certification, I was offered a job on the port loading and unloading ships. I've been there for nine years."

Although the port doesn't require CCO certification, he says, "I would recommend CCO certification to supervisors and co-workers because this is a nationally recognized credential respected by government, unions, and private corporations.

■ To read more about Mr. Crews visit http://www.nccco.org/SimeonCrews.htm



he National Commission for the Certification of Crane Operators (NCCCO) has been awarded accreditation by the American National Standards Institute (ANSI) for two of its newest certification programs. The CCO Rigger Level II and Articulating Crane Operator certifications are now accredited by ANSI to the ISO/IEC 17024 International Standard for organizations that certify personnel.

NCCCO has also been granted continued accreditation by ANSI for its previously accredited programs: Mobile Crane Operator, Tower Crane Operator, Overhead Crane Operator, Rigger Level I, and Signalperson.

The decision of ANSI's Personnel Certification Accreditation Committee (PCAC) to expand the scope of NCCCO's accreditation came after rigorous audits of its management systems and psychometric procedures, as well as detailed scrutiny of its written and practical test development and administrative processes.

"ANSI represents the highest standard of accreditation available," said NCCCO Commission Chairman Kerry Hulse. "Candidates and employers alike can now be assured that, with ANSI's independent verification of NCCCO's programs, CCO Articulating Crane Operator and Rigger Level II certifications meet the highest professional standards of examination development and administration."

"As with NCCCO's other ANSIaccredited certification programs, these two additional certifications help to 'close the loop' regarding crane safety on the jobsite," Hulse added.

"Achieving ANSI accreditation is a major undertaking," said ANSI Senior Director

Personnel Credentialing Programs Roy A. Swift, PhD, "and NCCCO can be very proud of this accomplishment. No other accreditation process demands the degree of psychometric or management disclosure that ANSI requires for accreditation under ISO 17024."

"OSHA's new rules for Cranes and Derricks in Construction - 29 CFR 1926, Subpart CC – require operators of articulating cranes used in construction to be certified as of November 10, 2014. Riggers, on the other hand, must now be 'qualified,' and certification under NCCCO's Rigger Level II program is an excellent way to show that riggers are qualified to rig non-routine jobs that require independent thinking without supervision," noted NCCCO Executive Director Graham Brent. "Both of these newly accredited certification programs provide an excellent way to show that personnel meet OSHA requirements."

Accreditation of certifying bodies is a requirement of OSHA's new rule published last year and is increasingly being required by state regulators in their attempts to ensure quality of the certifications issued, Brent noted. Fully three-fourths of the states that have requirements for crane operators and related trades now require or recognize NCCCO certification.

"A central part of NCCCO's goal since its inception 15 years ago has been to establish national testing programs that are fair to all candidates while at the same time are both valid and reliable assessments of essential knowledge and skills," Brent said. "ANSI's accreditation of these two new certification programs is clear testimony that that goal has been achieved."



### NCCCO approves use of calculators on CCO exams

Study reveals no impact on load chart interpretation

asic electronic calculators will be permitted for use on certain CCO written exams, the National Commission for the Certification of Crane Operators (NCCCO) has announced. Previously, calculators have been prohibited on all CCO national tests. The measure takes effect July 2, 2012.

The change in policy is based in part, NCCCO says, on the results of a study commissioned by International Assessment Institute (IAI), the company that provides test development and administration services to NCCCO. The study, The Effects of Calculator Use During CCO Testing, notes that there are two types of math items used in NCCCO exams: calculation problems that require only the use of basic math skills such as adding, subtracting, dividing and multiplying (items of this type were introduced on CCO Core exams in 2011); and those found on CCO Specialty examinations in connection

with load chart interpretation that involve higher order thinking and information retrieval skills.

The study recommends calculators to be used on CCO Specialty exams but not the

NCCCO Program Manager of Test Development Joel Oliva noted that the new policy would ensure that certified operators demonstrate their basic mathematical ability unaided, while performing load chart calculations much as many do in the field, with the assistance of a simple four-function calculator. "We expect the move to be well received by the industry," Oliva added.

NCCCO's decision was also in line with a recent shift in the position taken by standards and regulatory bodies on calculator use, said NCCCO Executive Director Graham Brent.

"NCCCO's prohibition on the use of calculators on its nationally accredited certification exams has been right in line with prevailing American National Standards," said Brent. In particular, he cited the American Society of Mechanical Engineers (ASME) B30.5 committee which historically has interpreted its provision for crane operators to be able to "exhibit arithmetic and load chart/capacity usage" as being required without the assistance of calculators.

"Not only has ASME recently modified its position," Brent said, "but OSHA's new rule on the use of cranes (29 CFR 1926 Subpart CC) permits the calculation and use of load/capacity information manually or with a calculator."

IAI President Dr. Anthony Mitchell stated that the study represented a significant contribution to the industry debate on this subject. "We now have, for the first time, concrete data on which to base a rational and informed decision on a matter that many people in the industry have strong opinions about," Dr. Mitchell said. "NCCCO has made the correct change in policy without being swayed by the emotion that has often characterized discussion on this issue in the past."

■ Find the study at http://www.nccco.org/ news/NCCCOCalculators.html.



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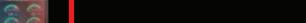












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Johnny McTyre enjoys the day-to-day challenges of solving heavy haul problems

Johnny McTyre, who grew up in the heavy haul business, enjoys working in an industry that is so full of creative ingenuity.

D.Ann Shiffler reports

# Challenge seeker



McTyre Trucking handles all sorts of specialized cargo using a variety of transport modes. Pictured is a huge transformer that was shipped from Korea to the Port of Savannah where it was loaded onto McTyre's waiting barge. It was shipped by barge to a private site in South Florida where it was loaded onto McTyre's TK500 dual lane transporter for the 100-mile journey inland to its final destination

s a teen-ager, Johnny McTyre spent summers working in the shop at McTyre Trucking. Like many young people who grow up in a family business, he started at the bottom, changing tires, assisting mechanics with repairs and sweeping the shop floor. But he didn't really mind, as that's how you learn the business, from the ground up.

"I entered the industry on a full-time basis in 2000 at the age of 23 in the role of field supervisor," he says. "From 2000 to 2007, I worked my way through several positions such as field supervisor, dispatcher, permit manager, maintenance manager and operations manager."

In 2007 he was promoted to vice president, taking on a leadership role in the 65-year old company. Orlando, FL-based McTyre Trucking provides clients customized solutions to their logistics needs, McTyre says.

"Our most common scope of work is in the area of over-the-road transportation of over-dimensional and overweight cargo," says McTyre. "We also provide clients with heavy lifting and rigging

You can take a dozen members of our industry and present them each with the same transportation challenge and you will likely receive a dozen different, legitimate solutions to that challenge.

Johnny McTyre

services in conjunction with heavy haul operations when needed."

We caught up with McTyre to talk about the business of specialized transportation.

### **HOW HAS YOUR COMPANY DISTINGUISHED ITSELF IN THE MARKETS IT SERVES?** WHAT ARE THE MAJOR MARKETS **MCTYRE TRUCKING SERVES?**

Honesty, loyalty, and service. This has always been the basis of our operation. We serve many markets today although this has not always been the case. From the mid 1990s to the mid 2000s, McTyre found a niche in transporting the oversize/overweight components required on DOT bridge construction projects. In 2008, as funds for new bridge construction were being diverted to other areas of government, we found that it was necessary to diversify and explore other markets. Today, McTyre serves such markets as civil construction, power generation, industrial manufacturing, and equipment exports/imports.

### WHAT IS IT ABOUT THIS INDUSTRY THAT YOU LIKE?

I enjoy working in an industry that is so full of creative ingenuity. You can take a dozen members of our industry and present them each with the same transportation challenge and you will likely receive a dozen different, legitimate solutions to that challenge. I value the

### About McTyre Trucking

McTyre Trucking Co., Inc. was founded in 1947 by Hilton McTyre, with the primary cargo being concrete products for the construction market. Over the past 65 years, McTyre Trucking has diversified to serve the markets of civil construction, power generation, industrial manufacturing and equipment exports/imports. The company is based in Orlando, FL.

knowledge acquired from the seasoned professionals, while I am always eager to see the new technology presented by manufacturers.

### WHAT IS IT ABOUT THIS INDUSTRY **THAT CHALLENGES YOU?**

Each project brings its own set of challenges. One day it may be issues with obtaining a hauling permit in a particular state, the next it may be issues with water levels at a barge landing site, another may be overhead interferences at a lifting/ rigging site. The challenges are what I love about this business. It never gets boring.

### WHAT JOB STANDS OUT IN YOUR MIND AS **AMONG THE MOST SIGNIFICANT YOU HAVE EVER PERFORMED?**

The job that stands out the most is a transformer delivery completed in 2011. The transformer weighed over 400,000 pounds, was almost 18 feet in height and needed to go through some of the most congested areas of Florida with major height restrictions.

Though we've moved loads of this nature before, the reason this one stood out was that a seasoned competitor, which was also looking at this shipment, said to me, in a telephone conversation, 'Johnny, stay away from this one. It can't

That sounded like a challenge to me. Our crew of professionals delivered the unit on-time and within budget using a multi-modal transportation and rigging solution.

### **ARE THERE UNIFORMITY ISSUES THAT NEGATIVELY AFFECT YOUR BUSINESS? IF SO,** WHAT ARE THEY?

The issues of non-uniformity between state permitting regulations continue to affect our business. The cost and inefficiencies of transloading cargo at state lines due to the lack of uniformity costs our industry and our customer's time and money on a daily basis.

I am very pleased with the efforts of



the SC&RA and members working with state officials toward the common goal of uniformity.

### WHAT IS THE PIECE OF EQUIPMENT IN YOUR FLEET THAT IS USED THE MOST?

It is hard to pin down any one piece that is used the most as they are all unique and tailored for different loads/ projects. Our 12- and 13-axle double drop configurations probably see the most utilization. I would contribute this to a decision made in 2008 to have all of our 12- and 13-axle trailers engineered and built with interchangeable decks. We have a variety of decks (flat decks, dropside decks, beam decks and perimeter decks) that will fit in multiple trailers, allowing us to customize a trailer for a particular load or project.

### **HOW WOULD YOU DESCRIBE YOUR BUSINESS PHILOSOPHY?**

'If it was easy, everyone would be

Everyone at our business has heard this from me at some point or another. This business is not easy, but with hard work comes great rewards.

### WHAT DO YOU LIKE TO DO WHEN YOU ARE **NOT WORKING?**

I live to spend time with my wife and our 7-year-old daughter. During the summer, we are on the water every weekend either fishing or just islandhopping along the Florida coast. Our fall is pretty much centered around Florida Gator football. We use the winter and spring to catch up on the chores, and I try to fit in some hunting and freshwater fishing wherever I can.

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Timothy W. Klein, PE, discusses the reasons it's necessary to inspect wire rope

he word safety has a special meaning to each individual. The dictionary provides the following definition: "Safety is the freedom from danger." The safety, dependability and strength of wire rope are what make the use of these products commonplace today.

As with all working products, wire rope eventually and gradually loses its work capability throughout its service life. That is why regular inspection by qualified individuals is crucial to the long-term use of wire rope. Applicable industry standards such ASME and ASTM, or federal regulations such as OSHA, refer to specific inspection criteria for wire rope in varied applications.

The regular inspection of wire rope and equipment should be performed for three good reasons:

- It reveals the rope's condition and indicates the need for replacement.
- It can indicate if you're using the suitable type of rope.
- It makes possible the discovery and correction of faults in equipment or operation that can cause costly accelerated rope wear.

The following information provides the when, where, and what for inspecting wire rope.

### When must wire rope be inspected?

The ASME standards provide the following requirements for the frequency of inspection of wire rope.

### 1 FREQUENT INSPECTION.

All running ropes should be visually inspected once each working day.

### THE AUTHOR

### TIMOTHY W. KLEIN.

PE, is director of engineered fabrications for WireCo WorldGroup



# Wire rope

The visual inspection shall consist of the observation of the wire rope that can reasonably be expected to be in use during the day's observation. The visual observation should be concerned with discovering damage that is considered an immediate hazard. This includes, but is not limited to, distortion of the wire rope, corrosion, deep cuts or abrasion, outer strand displacement or unevenness, and the number, distribution, and type of visible broken wires. Inspection records are not required to be kept on file for this inspection type.



### **2 PERIODIC INSPECTION.**

This inspection is to be conducted in a frequency determined by a qualified person. This frequency shall be based on such factors as expected rope life as determined by experience of the installation, severity of environment, percentage of capacity lifts, frequency rates of operation, etc. This inspection is intended to cover the entire length of the wire rope. Only the surface wires of the wire rope are to be inspected, no attempt should be made to open the wire rope or separate the outer strands. The intent of the inspection is to discover such conditions as previously described in addition to reductions in rope diameter, severely corroded or broken wires at end connections, and areas of rapid deterioration such as equalizer sheaves or other sheaves where rope travel is limited. The inspection is not required to be at equal calendar interval but should be more frequent as the wire rope approaches the end of its service life. This inspection shall be performed at least annually. A dated report

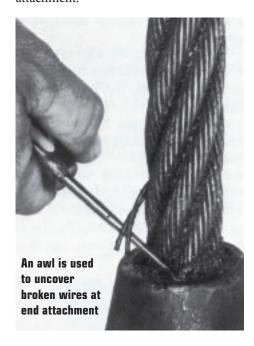
of rope condition at each periodic inspection is required to be kept on file. The report shall cover points of deterioration resulting in appreciable loss of strength.

### Where wire rope must be inspected?

While you're required to inspect the entire rope length, we recommend you pay particular attention to the critical points of a wire rope. These are the points subject to greater internal stresses, greater external forces, or are more susceptible to damage. Rope deterioration normally occurs more quickly at these points, so it pays to expand your inspection in these important areas:

**PICK-UP POINTS.** These are sections of ropes repeatedly placed under stress when you apply the initial load of each lift such as those sections contacting the sheaves or on the drums.

**END ATTACHMENTS.** Attachments at the dead end and drum restrict the free movement of wires, normally leading to broken wires that are more difficult to detect. If you find more than one broken wire, replace the rope or cut off the affected area and reattach the fitting. Inspection of rope ends should also include the condition of the actual attachment.



# ınspection

**DRUMS.** Check for signs of wear that could damage wire rope. For grooved drums, inspect the grooves for smoothness and absence of corrugation. For smooth drums, check for wire rope corrugation. It's also important to verify that the required minimum number of dead wraps remain on the drum and to check the condition of the drum flanges.

**SHEAVES.** The grooves on sheaves usually wear smaller over time. With a groove gauge, check each sheave for proper groove size and contour, as well as smoothness. Grooves that are too small or tight can cause pinching and increased wear while grooves that are too wide can cause flattening of the rope - both of which can reduce your rope's life.

**HEAT EXPOSURE.** Watch for evidence of heat exposure which can damage the rope and its lubricant. Any contact with an electrical arc such as welding is reason for removal of the entire rope. Never use the rope as the ground for an arc welder.

**ABUSE POINTS.** Check for "bright" spots where ropes are subjected to abnormal scuffing and scraping. Look for any condition that causes the rope to be asymmetrical.

Inspections must be carried out by a person who has learned through special training or practical experience what to look for and who knows how to judge the importance of any abnormal conditions they may discover. It is the inspector's responsibility to obtain and follow the proper inspection criteria for each application inspected. A dated report of the wire rope condition at each periodic inspection is required to be kept on file. A long-range inspection program should be established and should include records detailing previous wire rope service and information.

### When must wire rope be removed from service?

The ASME standard B30.5 for Mobile and Locomotive Cranes provide requirements for the removal of wire rope from service. Anytime a wire rope appears to be

damaged or unsafe it should immediately be removed from service until a complete inspection by a qualified individual is performed on the wire rope. A major portion of any wire rope inspection is the detection of broken wires. The number and type of broken wires are an indication of the rope's general condition and a benchmark for its replacement. The removal criteria for wire rope replacement as specified in ASME B30.5 for Mobile and Locomotive Cranes shall be as follows:

### **1 BROKEN WIRES -**

- a Running wire ropes 6 randomly distributed broken wires in one lay or 3 broken wires in one strand in one lay.
- **b** Rotation-Resistant wire rope − 2 randomly distributed broken wires in 6 six rope diameters or 4 randomly distributed broken wires in 30 rope diameters.



- 2 One outer wire broken at the point of contact with the core of the wire rope that has worked its way out of the rope structure and protrudes or loops out of the wire rope structure. Additional inspection of this section is required.
- **3** Wear of 1/3 the original diameter of the outside individual wires.
- **4** Kinking, crushing, birdcaging, or any other damage resulting in the distortion of the wire rope structure
- **5** Evidence of Heat damage for any cause

- **6** Reductions in the nominal diameter of the wire rope of more than the following:
- a 1/64 in. (0.4 mm) for diameters up to and including 5/16 in. (8.0 mm)
- **b** 1/32 in. (0.8 mm) for diameters from 3/8 in. (9.5 mm) to and including 1/2 in. (13 mm)
- c 3/64 in. (1.2 mm) for diameters from 9/16 in. (14.5 mm) to and including 3/4 in. (19.0 mm)
- d 1/16 in. (1.6 mm) for diameters from 7/8 in. (22.0 mm) to and including 1-1/8 in. (29.0 mm)
- e 3/32 in. (2.4 mm) for diameters from 1-1/4 in. (32.0 mm) to and including 1-1/2 in. (38.0 mm)
- **7** For standing wire ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection. The broken wire removal criteria listed above applies to wire ropes operating on steel sheaves and drums. The user

should contact the sheave, drum or crane manufacturer for broken wire removal criteria for wire ropes operating on sheaves and drums made of material other than steel.

### What replacement rope should be used?

Your replacement rope should have a minimum breaking force at least as great as the original rope furnished or recommended by the crane manufacturer. Any deviation from the original size, grade or construction must be specified by the wire rope manufacturer, crane manufacturer or a qualified person.

The maintenance of wire rope is critical to ensure the longevity of the product and should be included in the general maintenance procedures with any crane. The biggest part of wire rope maintenance involves regular lubrication to prevent corrosion and to reduce friction between the wire rope's components as well as the friction between wire rope and sheaves or drums. Wire rope should always be maintained in a well lubricated condition. Lubricant that is applied as part of a maintenance program must be compatible with the original lubricant, and to this end, the wire rope manufacturer should be consulted.

After weathering one of the worst market downturns in recent history, boom truck manufacturers have retrenched, retooled and are optimistic about the market for this increasingly popular "in and out" crane. **D.Ann** Shiffler reports



Manitex has introduced a new tilt cab designed for functional performance, ergonomic excellence and safety. The cab features a curved glass viewing area and the hydraulic system allows the operator to adjust the angle of the cab from 0 to 20 degrees.



or the first time in a long time, the news about the North American boom truck market is good. Finally.

"The market is strong, it's no question we are all on an uptick, with 2009 and 2010 being the worst recordable years for boom trucks," says Brian Peretin, vice president, sales and product marketing, Manitowoc Cranes' National boom trucks.

Randy Robertson, sales director, Manitex, points to his company's growing backlogs. "Things are strong," he says. "Boom trucks are the life blood of Manitex and with the recession, we had to reinvent ourselves to other markets and to other countries. And it's now paying off."

Elliott Equipment's Jim Glazer concurs that the market is stronger, as does Tadano's Bryan Turner.

"I think if you are looking at the big picture, the overall cycle for boom trucks seems like it's on the upswing," says Glazer.

"Absolutely we are seeing life in this market," says Turner. "We did nearly double our 2010 totals in 2011."

"For the first time in a long time, there's a lot of excitement in the boom truck

market," says David Kuhlman, sales director, boom trucks, Terex Cranes. "For Terex, it's new products. We brought out three new products last year, products that we dearly needed to compete in this market."

For the most part, the traditional drivers of the boom truck market still have not recovered. Boom trucks designed for the housing, roofing and truss markets are still not moving well, although one class of boom trucks is hot. The market for boom trucks in the 50-ton plus capacity class is vibrant, says Kuhlman.

### Pushing the envelope

When the market hit the skids, the largest boom trucks on the market were in the 36-ton capacity range. After more than 19 years in the industry, Peretin remembers when the conventional wisdom assumed that boom trucks would never push the 30- to 35-ton envelope. He agrees now, however, that the capacity envelope is being pushed and breached.

Manitex was the first to break the 50-ton boom truck barrier and its success in this market has been notable. The company showed its 55-ton capacity >28

### BOOM TRUCKS **PRODUCT FOCUS**



50155SHL at ICUEE in October, and Robertson says the reception to the larger "truck crane boom truck" is strong.

"Manitex took a leadership role in bringing new products, [larger capacities] to the market," admits Kuhlman. "They did an excellent job of identifying that need and listening to that market. We've had to play catch up, but we are doing so really fast."

### Terex crossover

Last spring Terex introduced the Crossover 4500 and the Crossover 6000, 45-ton and 60-ton boom trucks, respectively, designed to compete in the higher capacity boom truck markets, which mainly involve energy customers for utility and power line repairs, oil and gas production and refinery work. National now has a 55 tonner and Elliott markets a 50 tonner.

"You have to listen to what the market is telling you," says Peretin. "We've done that, and we are seeing that the boom truck market has changed. We are responding to that change."

For many years, the top selling boom truck was the 23.5-ton capacity model.



Terex's Crossover 6000 can lift 60 tons and is currently the largest capacity boom truck on the market

All the manufacturers competed in that class, selling the machines to rental companies and smaller crane companies who found a market for the simply designed cranes that could get in, do the job, and get to another job quickly, safely and efficiently.

The 17 to 23-ton capacity class was a



### 'Knuckle' heads

The articulating boom truck crane market is changing and adapting, says Bernie Faloney, president/CEO of Fascan International. "Our traditional markets in the construction sectors have, to the surprise of no one, been fairly slow over the last several years. but we've been seeing increased activities in some new markets, most notably the utilities markets, the oil, gas and propane sectors and the equipment rental markets." Faloney says. "Even though we've heard talk of a resurgence in the housing and construction market, we're finding most of our activity coming from new sectors."

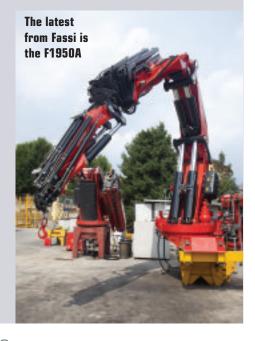
Traditionally, articulating cranes got the majority of their work from the housing market. The flat-bed trucks make for perfect material-handling solutions while the lift and place features move anything from shingles to trusses.

"The major markets for IMT articulating cranes are railroad, waste, energy and mining," says John Field, product manager, Iowa Mold Tooling Co.

The most sought-after feature on articulating cranes is instant feedback through a remote control console. According to Faloney, end users are looking for a crane and an operator interface that allows then to do more efficient work with a smaller workforce while giving operators instant feedback on how much of a load they are handling, along with other features.

"We have definitely seen a shift toward greater use of the radio remote controls, which offer operators increased productivity," Field says.

Both IMT and Fassi are touting newer models. Fassi has just announced its F1950A and IMT its 38/262.



darling of the housing industry, and it was well liked for being able to carry a payload such as a HVAC unit, roofing materials or even a pallet of sod.

"With our Terex Stinger product we had a strong market presence," says Kuhlman. "Today, the major industry or market segment that all of us are enjoying is energy-related markets. We are seeing strong interest in oil and gas exploration companies, and we finally have products that do well in those markets. We are also seeing a nice increase in the rental side of the business. The major rental houses are getting more active, which they haven't been in last four or five years."

He says Terex has been winning deals for boom trucks with United Rental and Hertz with both newer products and the traditional 17- to 25-ton classes.

"Our dealers are getting more active and are seeing some good retail business," Kuhlman says. "Our dealers are beginning to stock units. Another driver is that fleets in the 19-ton and lower class crane markets are pretty well aged [and need replacing.] New safety innovations, such as the LMIs, and other OSHA and ANSI requirements mean that owners are looking to update their fleets and enjoy lower operating costs."

### Warranty incentive

Glazer says that Elliott has broadened its product line and has carved a niche in customization. "We lead the industry in customization of boom trucks," he says. "People like the fact they can build their Elliott their way. The other thing that customers have sought us out for is our lifetime structural warranty."

Introduced last year, Elliott's warranty program is very aggressive. "We have a great product and we are able to offer this warranty," Glazer says. "We do lifecycle testing on our products and we do third-party testing. We are very confident in the boom trucks we build."

Manitex has been aggressive in its product development and has opened new markets in Canada, South America, Russia and the Middle East with its higher capacity boom trucks, Robertson says. Back when the market was really soft, Manitex invested in trips to Russia and Dubai, where they continue to ship machines. He says they even have an order for a boom truck in Turkey.

While much of Manitex's engineering efforts over the past couple of years have been centered on the 55-plus ton market, Robertson says Manitex



The Elliott 36127F includes a new aluminum bed for reduced weight, a 34-foot 5-inch retracted to 127 foot extended 5-section boom, an internal anti-two block system and a Hirschmann LMI

will always be faithful to the smaller markets, responding to those customers aggressively as the market rebounds.

"We are now revisiting the 17 to 36-ton market," says Robertson. "This year we will introduce the first of a new C-series boom truck. That will be the beginning of subsequent updates to our C series."

But Robertson also says his company's engineers are still tinkering with pushing the bigger envelope in terms of "larger than a 55 tonner."

The newest cranes to the National product line include the 55-ton NBT 55 and the 30-ton NBT30H. The NBT 55 has one of the strongest charts on the market for its class, and it features a cross beam front outrigger box, which allows the outrigger footprint to be shifted more toward the front of the crane, eliminating the need for a front outrigger, although it is still available.

Peretin says National engineers continue to apply innovation to the boom truck genre, assessing how to create larger capacities, longer booms and still keep the machines on a commercial chassis and roadable in all 50 states.

"We are at the edge," he says. "We are kissing the boundary of roadability. It's harder to keep them legal and still be able to do the work that they are meant to do and to keep the price in line."

With the larger capacity boom trucks, Kuhlman says there's definitely been a cannibalization of the truck crane

### PRODUCT FOCUS

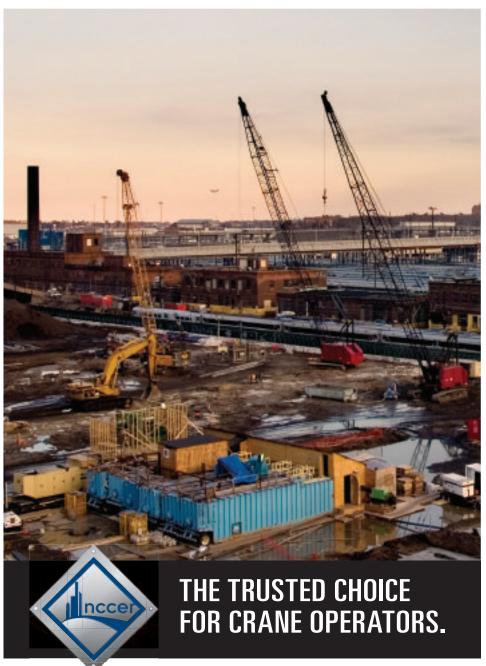


business with the new, larger capacity boom trucks. "There is no question in our mind that we are invading the traditional truck crane market," he says, "even our truck crane business. When we developed our Crossover 6000, we had to ask how much business we were going to take away from ourselves. But we realized if we didn't do it, then our customers would migrate to a different product model."

Terex continues to do market research on boom trucks, assessing its product range and anticipating what the customer will want next. "We are going to continue being aggressive in answering customers needs for benefits and features," Kuhlman says.



The 38-ton capacity Altec AC38-103S has a 103-foot, 4-sction boom



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# Training, safety & certification



Taking the time to train your staff can be costly, but there are ways to 'get a bang for your buck.' **Lindsey Anderson** gives tips on how to stretch that Benjamin without skimping corners

### while Saving

raining can be expensive, though it's not always the upfront cost that empties wallets.

"The cost of training - what you pay the training company – is not the biggest expense," says Jeff Stachowiak, director of safety training at Sunbelt Rentals. "The biggest expense is taking your people out of the field to take the training.

From construction work to desk jobs, taking any employee off their assigned post for an hour, day or even a week will cost the company money due to a loss in productivity, a backlog of work and overall time. Jere Woolcock, Terex Cranes' global training manager, says this loss of time from a jobsite is probably the biggest cost factor when it comes to training crane operators.

"It boils down to the company's work schedule," Woolcock says. "When they come to the factory [for training], of

course that technician is away from their location so for them to do any work, they have to go out on the machine after hours. and that's impossible."

To deter lost time and costs associated with it, companies that offer training have started to offer a variety of solutions.

Some crane manufactures offer factory courses but they also can travel directly to the customer's jobsite or location and provide training there. If that's too much of a bother for companies, there are more flexible options as well.

"Equipment manufacturers provide on-site training at our corporate office, in which senior/qualified technicians come from around the country and participate," says Kirk Ward, corporate safety director for the ALL Erection & Crane Rental Corp. "These technicians in turn return to their respective branch locations and impart this information to their co-workers."

For Woolcock, he offers staggered training throughout the year, so instead

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# spending

of one course taking place one time a year and all related operators having to attend that one course, he instead will offer it multiple times during the year, allowing trainees to choose a time that best suits them

"If you have companies that have a few technicians and send them to a factory all at once, that leaves the company without coverage during that week of training," he says. "This helps out because then you're not doing one specific course per year that everybody's got to get into or wait until the following year."

### Web training options

Another growing trend for saving time and money comes in the form of webinartype training. "[These types of] training and collaborating sessions are conducted regularly and cover a wide range of topics," Ward says.

Ward says that ALL Erection & Crane Rental Corp. broadcasts webinars from its corporate office and that the sessions



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are typically presented on a companywide basis. "The presenters are generally experts in their fields and work jointly with our corporate safety department in the presentation. We have done more of these this year than before, as they offer the opportunity to present topics to a large number of people on a more timely basis and eliminate the costs associated with travel, while at the same time affording for real-time question-andanswer sessions."

It's this type of approach that Woolcock is looking to implement into his training

courses through Terex.

"I'm trying to create virtual online training or webinar training," he says. "With our industry, we can bring people new to the machines into our factory so that they get hands-on training and understand the cranes and the products. but then, when new machines come out, they don't necessarily have to come to the jobsite or to a factory training [session], they could do a webinar."

Another possibility is for companies to look up a centrally located training place closer to home, such as a rental company or dealer where they can send their people. "A lot of these crane companies have bought up one another so there are a lot of companies out there that have branches in other cities or states," Woolcock says.

The biggest bang for your buck, though, Stachowiak says, is to make sure trainees and company leaders insure that the training works to change behavior and

To deter lost time and costs associated with it, companies that offer training have started to offer a variety of solutions



to make sure that supervisors have also received the training so they understand what needs to be enforced in the field after the training.

"Make sure the training company delivers a comprehensive training course and make sure your people attending

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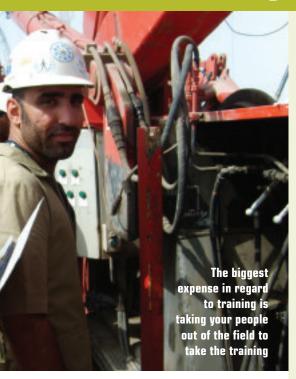
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# Training, safety & certification INDUSTRY FOCUS



understand the importance of the class," Stachowiak says. "Training does not stop after the class is over and attending a class does not necessarily make you an operator. Only hours of experience in operating the equipment safely makes you a safe operator."

ALAN ASHLOCK, president of Crane Rental Corp., says his company has many programs in place to promote job safety. Some of his on-the-job and in-the-factory approaches to keeping workers safe are simple and effective.

Conduct weekly safety meetings at all locations and jobsites to discuss trends, accidents (theirs or others), near misses, weather, school schedules and more. "The frequency of a strong safety message from the top down goes a long way," Ashlock says.



Encourage employees to work safe and look out for one another. Crane Rental has implemented a Bingo game for this. "This program works well and the costs are minimal," he says. "Safety Bingo is a motivational game that increases safety awareness in the workplace. The concept is similar to traditional Bingo. Each employee receives a Bingo card at the beginning of the game and one number is drawn each day until someone makes a Bingo and earns a prize. Numbers are generally posted in an employee break room so everyone can check their Bingo cards daily. When an employee suffers a preventable work injury, the game ends and everyone gets new cards. While creating some peer pressure from your coworkers, it is also a high speed information system. For instance, if I have 'BING' and am about to win a couple hundred dollars and you have an incident, then I (and others) will want to know why, what, how and who."

Crane Rental also has a Safety Incentive Program which is an individual reward for being safe and for grading performance. This is updated quarterly and a report card is sent home to spouses. "The more CCO qualifications you have, the more you are eligible to win," he says. "However, you can lose portions per quarter or all of it for a year for unsafe acts or performance issues depending on the severity of the act."

The company also employs a safety director who can train employees at any time. "This allows us to be very flexible and creative when it comes to safety and training," he says.



The Assembly/ Disassembly Director delivers one primary element of an overall project effort, specifically to get the crane or other load handling equipment into its proper operating state, or potentially removing it after its need no longer exists. Mike Parnell assesses the role of this important jobsite player



ver the last five years, we have been introduced to the idea of having "directors" involved in the crane and rigging world. To some extent, we have always had them by virtue of other titles such as lift foreman, hoisting supervisor, crane and rigging superintendent and the like. In the development of new OSHA regulations and ASME standards, we are seeing these roles unfold with more definition and a clearer outline of responsibilities.

Let's get a broad perspective of the two most recent titles and then we will drill down into the last one to gain a deeper understanding of its tasks and responsibilities. The two under discussion are the "Lift Director" and the "Assembly/ Disassembly Director."

# The lift director

The Lift Director is the person who has a good working knowledge and understanding of the Load Handling Equipment (LHE) such as cranes, gantry systems, rigging and safe load handling procedures. He is very competent and knows the right questions to ask during the lift planning phase. He understands the roles and responsibilities of the site supervisor, the LHE operator, user and owner.

The Lift Director can build and implement a load moving plan incorporating the proper field crews which include riggers, signalpersons and associated personnel. He knows who to tap for information concerning engineering concerns, regulatory requirements, emergency action plans, equipment specialists and vendors. The Lift Director keeps the 30,000 foot view of the project at hand, yet has the capacity to get involved in any single detail using his resources or personal knowledge. For more detail about the Lift Director's roles and responsibilities, obtain a copy of ASME B30.5-2007 Mobile and Locomotive Cranes, which is available at www.asme.org.

# The assembly/disassembly director

The Assembly/Disassembly Director title was introduced through the recently released 29CFR1926.1400 Construction

Crane code issued by OSHA in 2010. In practice, this person has existed for many years, but may not have been given the official title of Assembly/Disassembly Director (A/D). His focus is the proper assembling or disassembling of a lattice boom type crane (mobile, tower, etc.) and/ or the jibs and extensions of hydraulic boom type cranes. It is already apparent that the industry is borrowing this title and assignment callout for folks charged with A/D work related to telescopic hydraulic gantry systems, strand jack systems and other intricate load handling equipment.

The A/D process is somewhat high risk and has resulted in numerous injuries/ deaths, hence the attention paid by OSHA to significantly expand the description of job tasks and safety procedures related to this subject. As a general rule, the A/D Director would report to the Lift Director. The A/D Director is delivering one primary element of an overall project effort, specifically to get the LHE into its proper operating state, or potentially removing it after its need no longer exists. Boiled down, the A/D Director needs to



# AUTHOR

Mike Parnell is president of Industrial Training International, Inc. ITI provides crane and rigging training/

consulting for hundreds of clients in the U.S. and around the world. Mr. Parnell is chairman of the ASME P30 "Lift Planning; vice chairman of ASME B30.9 Slings; and member of ASME B30.1 Jacks, B30.7 Winches, B30.19 Cableways, B30.26 Rigging Hardware, B30.30 Ropes; board member and past president, Association of Crane & Rigging Professionals, member, Washington State - Crane and Rigging Stakeholders; and chairman, Rigging Certification, Crane Institute Certification.

# player

be knowledgeable and competent in four primary areas.

He needs to have a full working knowledge of the crane manufacturer's prohibitions, warnings and cautions relative to assembling or disassembling the specific type crane in question.

He needs to be fully familiar with the instructions and sequence of the crane's assembly/disassembly per the manufacturer's instructions or those provided by a qualified person (one judged to have equal knowledge of the process as compared to the manufacturer).

He needs to have a complete understanding of the corporate (LHE owner's) guidelines and requirements associated with A/D work. This may include, but not be limited to safety elements like fall arrest, barricading, traffic control, power line issues, PPE, component rigging, blocking/cribbing, use of hand tools and the like.

He must have knowledge and competency in regards to the OSHA requirements as called out in 29CFR1926.1400, specifically .1403-.1407 and the referenced items in .1401,

After having become fully knowledgeable about the OSHA requirements and the corporate guidelines, he needs to thoroughly understand the manufacturer's prohibitions and the assembly sequence

.1402, .1412, .1417, .1434, Appendix B and .251. (See www.osha.gov and search 29CFR1926.1400 for details.)

The general approach for an A/D Director to take when assembling a mobile crane with a lattice boom is not overly complicated, but it does require a sequential approach to be successful. He needs to understand the "assignment," which would include the targeted assembly area and the final boom configuration upon completion. After having become fully knowledgeable about the OSHA requirements and the corporate guidelines, he needs to thoroughly understand the manufacturer's prohibitions and the assembly sequence. If he has questions about the A/D project, he needs to get clarification from the manufacturer/qualified person or other appropriate parties before starting. He will be leading others in the process, so it is critical that he has the game plan in his mind and properly described on paper, before moving forward.

He should gather the team - crane operator, qualified rigger/signal person and other helpers as needed - and review the plan. The team meeting should include a review of the manufacturer's prohibitions, cautions and warnings, the actual assembly sequence, the corporate A/D guidelines, and the precautions and instructions offered through the OSHA regulations 1926.1403-.1407, et.al.). This pre-meeting should address any concerns by team members and serve as a point in time to qualify the assembly area as regards to obstructions, power lines, ground conditions, traffic issues and the

A checklist is handy when it comes

At the end of the day, the assembly/ disassembly director has a focused task consisting of a thousand details. His crew size may be much smaller than the one that reports to the Lift Director, but no less important when it comes to the associated risks



to two significant areas, namely the sequence of assembly and a list of tools, equipment and safety items necessary for the team members. Also detailed on the checklist are items regarding the safety of any non-associated parties, such as other site employees or the general public. The A/D Director will be the ring leader of this event and is responsible for the performance of the team according to the plan and instructions.

Three goals must be achieved during an A/D project, such as a mobile crane's lattice boom assembly.

- 1. The work practices of the team must be executed properly – the results of which are that no one is under the boom section(s), which is not supported by blocking. At times the boom will be under compression during the process, with pins being driven in to join boom sections. Pendant lines will be attached and the boom being assembled may be raised or adjusted in order to add a new section. The collapsing (uncontrolled hinging) of a boom section during the assembly process while aligning for connection can be deadly. So coordination of the ground personnel and the operator is paramount in achieving an incident-free assembly project.
- **2.** The technical elements of the assembly project are crucial for the crane to be able to operate within the manufacturer's parameters. Installation of the prescribed boom sections in the proper order is very important. The final crane configuration must be correct so that the crane has the

# INDUSTRY FOCUS Training, safety & certification



integrity to perform as designed. **3.** Whether installing counterweights, the gantry or mast, or the boom and pendant lines, they all have to be handled properly to ensure no damage occurs to the components. Additionally, the rigging must be correct as to selection, method and capacity and must pass a pre-use inspection.

The A/D Director needs to have certain skills in addition to the "knowledge areas" described above in order to properly perform his duties. He or she should have experience in mechanical assembly work, while having a disciplined mind that commits to following specified plans. He or she should have a certain level of maturity to execute according to a wellorganized plan and have an overriding aversion to "short-cuts." The A/D Director needs to be able to lead others by speech and action, and should be able to motivate

The "Assembly/Disassembly Director" title was introduced through the recently released 29CFR1926.1400 Construction Crane code issued by OSHA in 2010. In practice, this person has existed for many years

the team to stick to the procedures at-hand, while allowing anyone to give an "all-stop" command should anything arise that deviates from the plan. The A/D Director must be able to "visualize" how a proposed deviation might impact the overall success of the assignment such as using a 4-pound hammer instead of a 2 pound one might result in a negligible difference, except that the rigger has to swing it a little harder to drive a pin into place. On the other hand, deciding to connect boom pins out of sequence could have catastrophic results, and the A/D Director needs to anticipate the consequences and respond accordingly.

At the end of the day, the A/D Director has a focused task consisting of a thousand details. His crew size may be much smaller than the one that reports to the Lift Director, but no less important when it comes to the associated risks. In some ways, the A/D Director's job can be deemed "tougher" because of the immediate hazards associated with A/D work. However, with the right training, experience, knowledge and preparation, either job can be handled with competency and success.



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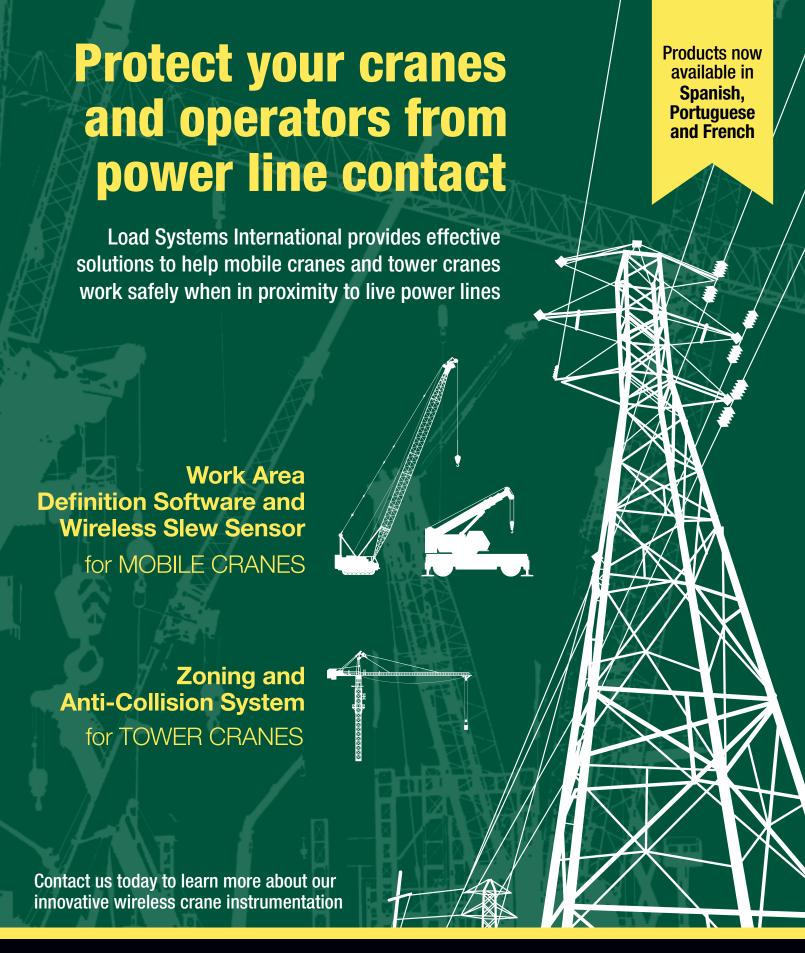


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Crane inspection is a critical element of overall safe crane operation. **Ed Shapiro** reports exclusively for *ACT* 

uring the past three years, as the country has been climbing out of tough economic times, the crane inspection business has actually been on the increase. Crane safety has never been so much in the spotlight.

Driven by high-profile accidents, insurance company scrutiny and knowledgeable contractors/construction managers, the inspection industry has been forced to meet more extensive demand. The new crane rule (1926.1400) is partially responsible, but profit is the main driver of this trend.

A crane accident has many components, none of which are good:

- Hurts or kills people
- Damages the crane and the project
- Stops the project
- Invites compliance, including OSHA, Department of Public Safety and other investigations
- Starts the legal cycle including interrogatories, depositions and possibly a civil or criminal trial
- Timeframe is five to eight years Understanding the consequences of an accident, more entities are selecting thirdparty inspection for the cranes on their jobsites. Contractors are even requesting that lattice boom cranes moved onto a site be totally re-annualized because of the possibility of damage during the demobilization/transport/mobilization process. Many inspectors have conducted annual inspections on some cranes three and four times during a one-year period for this reason. What benefits can you derive from using a third-party inspection

You will be using a trained, codeknowledgeable inspector who inspects all manner of cranes every day, not just



# THE AUTHOR

Ed Shapiro is president of Heavy Equipment Services Company based in Niantic, CT.

# Inspection trends

once per year.

- The third-party inspector can make cable and ancillary equipment recommendations so that you get longer life and ease of operation from your equipment.
- You will be dealing with a person who knows, by experience, where to look for model-specific problems.
- The third-party inspector will be your advocate when inexperienced safety directors make unreasonable demands for inspection or documentation.

# Choose well

However, you should use caution when choosing your inspection agency. There are only a few states that require crane inspectors to be licensed. OSHA "accredits" maritime inspectors by audit and interview.

The Crane Certification Association of America (CCAA) tests their members in all crane disciplines (mobile, tower, and overhead) and issues a "Certified Crane Surveyor" card to those who pass. CCAA recently partnered with the National Commission for the Certification of Crane Operators (NCCCO) to develop an Inspector Certification Exam for all three crane disciplines, as well. Both organizations have time limits that either require that inspectors continue their education through Continuing Education Units (CEUs) or re-test to maintain their standing.

Many inspectors are not affiliated with CCAA, NCCCO or a state licensing entity. They may or may not be qualified. Anyone can call himself an inspector, but you should require proof.

# Electronic capture

The next phase of inspection is electronic capture. The inspection is completed using a hand-held device with internet connect ability. The crane owner can then click a button on the inspection agency's website, key in his password and have all his crane inspections and certificates in view. He then has the option of printing them out or sending them directly to a jobsite that

has requested the crane credentials prior to allowing them to set up.

Another trend is semi-annual inspection. Contractors that have experienced a crane accident are aware of the consequences and request semi-annual inspection. Their feeling is that a more frequent inspection is inexpensive compared to the potential of a catastrophic event. They may even request an insurance discount for this additional loss-mitigation program.

Finally, most owners are now having their Suspended Personnel Platforms (SPP) inspected annually, per code requirement. These devices are often ignored because they aren't used very often. But now owners are realizing the exposure of using

Still, there are many other material handling devices, including scale pans, self-dumping bins, skip buckets, humpty dumpsters, glazing cages, and the like, that are currently in use but that are not being inspected. Many of these devices are "homemade" and may not be very safe. Compounding the problem is that there is a lack of codes for inspecting this equipment. After many requests, many third-party inspection companies have developed an inspection criteria similar to Suspended Personnel Platform codes and perform annuals on those devices as well.

Cranes are serious business and require serious attention.



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Crane operator certification continues to prove its worth. **Graham Brent** reports exclusively for ACT

ver the past 25 years, crane operator certification has grown from an idea championed by a few industry stalwarts - and, most notably, the Specialized Carriers & Rigging Association (SC&RA) and its crane, rigging and manufacturing membership – who foresaw the enormous safety benefits that a professional credentialing program and its associated training could bring to the construction environment, to a national requirement incorporated into the latest federal OSHA crane standards (29 CFR 1926 Subpart CC). In less than a generation, certification has become an essential and accepted element in the process to ensure personnel are qualified to perform their assigned job duties. Well-trained employees, with independently verified knowledge and skills, make fewer mistakes - and therefore have fewer accidents - than those with less experience or inferior knowledge.

Playing a pivotal role in the evolution and application of the certification of crane operators (and, more recently, others engaged in lifting operations) has been the nonprofit organization, the National Commission for the Certification of Crane Operators (NCCCO) - the country's longest-established and most accredited crane operator certification body - which has been certifying crane operators since 1996. As CCO mobile crane operator certification began to reveal tangible benefits in the form of reduced accidents and fewer fatalities among operators and other jobsite personnel, crane operator certification has gained increased



AUTHOR

Graham J. Brent has been the executive director of the **National Commission** for the Certification of Crane Operators (NCCCO) since 1996.



acceptance by those concerned with crane safety and risk management.

The success of NCCCO's mobile crane operator certification has led to industry demand for additional crane operator and other crane-related personnel certifications, to the point where CCO certifications are now available for most all those whose job brings them in contact with cranes and lifting equipment, effectively "closing the loop" on jobsite safety.

By providing thorough, independent assessments of knowledge and skills, CCO crane operator certification:

- Enhances lifting equipment safety
- Reduces workplace risk
- Stimulates training
- Gives appropriate recognition of the professional skills required for safe crane operations
- Enables more productive, efficient operations
- Aids employers when hiring
- Helps contractors and employers obtain more favorable insurance rates
- Lowers equipment repair costs
- Improves jobsite communication

NCCCO's Expanding Portfolio

To date, NCCCO has certified more than 70,000 operators and other crane personnel in all 50 states. Since NCCCO began testing in April 1996, more than 600,000 written and practical exams have been administered to over 135,000 crane personnel in all 50 states. Nearly every state that has requirements for crane operators now requires or recognizes CCO certification, as well as federal

OSHA. More than a dozen industry organizations and associations officially support NCCCO. Job postings requiring or requesting CCO certification are made by employers and employment agencies on a daily basis.

Once the mobile crane operator program began to realize the safety and risk-management benefits its supporters had long anticipated - Cal-OSHA's seminal study revealed an 80% decline in crane fatalities since certification was introduced - CCO certification provided a sound basis for expansion. First new program to be developed was a program for tower crane operators (in 2004), followed by overhead cranes in 2005, and articulating cranes in 2010. Calls from industry to apply this successful formula to other trades led to the development of certifications for signalpersons in 2008, riggers in 2009, and crane inspectors in 2011. This robust range of certification programs ensures that everyone whose job puts them in contact with cranes and lifting equipment has a sound base of knowledge and skill, thereby improving jobsite communications and ensuring safe lifting practices.

Covering the full range of job-site functions, NCCCO offers certification programs for the following crane-related personnel:

- **CERTIFIED MOBILE CRANE OPERATOR** for operators of lattice boom and telescopic boom mobile cranes
- **CERTIFIED TOWER CRANE OPERATOR for** operators of hammerhead, luffing jib, and self-erecting tower cranes
- **CERTIFIED OVERHEAD CRANE OPERATOR**

# INDUSTRY FOCUS Training, safety & certification



**CCO** telescopic crane operator certification is available in both fixed cab (pictured) and swing cab

- for operators of overhead bridge or gantry cranes

### **CERTIFIED ARTICULATING CRANE OPERATOR**

- for operators of articulating boom cranes (or "knucklebooms") or articulating boom loaders (also known as "material loaders" or "wallboard cranes")
- **CERTIFIED RIGGER LEVEL I AND CERTIFIED RIGGER LEVEL II** – for those who prepare loads for safe lifting; Rigger Level I certification indicates that certificants are considered qualified for most rigging work, while Rigger Level II certification shows that they can rig non-routine jobs that require independent thinking without supervision
- **CERTIFIED SIGNALPERSON** for those who signal the crane operator during a lift using standard hand and/or voice
- **CERTIFIED CRANE INSPECTOR** for those who inspect and certify cranes as safe to use and ensure that cranes comply with provisions of OSHA 1926 Subpart CC
- **CERTIFIED DIGGER DERRICK OPERATOR** (2012) – for operators of these unique pieces of equipment, which have their own characteristics and associated risks
- **CERTIFIED LIFT SUPERVISOR (2012) for** those who provide oversight of an entire jobsite, including verifying personnel qualifications

# The Certification Gold Standard

NCCCO's solid 15-year track record of providing nationally recognized

Lattice boom crane operator candidates must pass a truck and/or crawler crane written exam, and a practical exam (shown)

certification to crane operators, riggers, signalpersons, and inspectors has given it unparalleled credibility as the leader in professional credentialing for those who work with and around cranes. In essence, the CCO programs have been developed by industry for industry and continue to be supported by it. NCCCO's Commissioners, Board of Directors, and committee volunteers represent diverse industry groups such as contractors, rental firms, owners, unions, government, regulatory and standards-setting agencies, steel erectors, petrochemicals, energy, automotive, equipment manufacturers and distributors, construction firms, consultants, and insurance companies.

CCO certification programs have been developed and continue to be managed by scores of subject matter experts representing literally hundreds of years of crane experience from all areas of industry that use cranes. The credibility established by administering over a half million exams enables thousands of employers nationwide to rely on CCO certifications to ensure that their workers are sufficiently skilled and knowledgeable to do the work they are assigned.

Since 1996 NCCCO has:

- Tested 135,000 candidates
- Administered more than 600,000 tests
- Conducted more than 11,000 paper & pencil written test administrations (computer-based tests are also available from 260 test centers nationwide)
- Established 3,000-plus practical test
- Approved 8,500-plus cranes for practical exam testing
- Certified 70,000-plus crane professionals in all 50 states

# Accreditation and recognition

NCCCO certification programs are accredited to rigorous national and

international personnel certification accreditation standards by the American National Standards Institute (ANSI) and the National Commission for Certifying Agencies (NCCA). CCO certifications have been nationally accredited by NCCA since 1998 and ANSI (to the international standard ISO 17024) since 2007. International accreditation demonstrates that NCCCO's certification programs maintain the highest standards of test integrity and bring with them a guarantee of testing validity and fairness. Since 1999, NCCCO's programs have also been recognized through a formal agreement with the Occupational Safety & Health Administration as meeting OSHA's requirements for crane operator qualifications.

In addition to meeting physical requirements and complying with substance abuse policy and a code of ethics, all CCO-certified operators must demonstrate their competency by passing written and practical examinations and meeting medical requirements.

The NCCCO mobile crane operator practical exam that was implemented in 1999, developed like all aspects of its certifications with the assistance of professional psychometric experts, has since provided a model for CCO certifications for other types of crane operators. And even more gratifying, the certification model NCCCO developed--while created to address the safety needs of a specific industry-- has found application among professions well beyond the construction field, and has garnered accolades from the American National Standards Institute (ANSI) Personnel Certification Accreditation Program and certification industry bodies such as the Performance Testing Council (PTC) - creating a legacy far beyond the imagination of its founding fathers a mere quarter century ago.





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- Supplied engineering, risk management or other crane, rigging and specialized transportation-related services for a Jobs of the Year winner or entrant

PROFILE CLOSING DATE: October 2012 PUBLISH DATE: April 2013

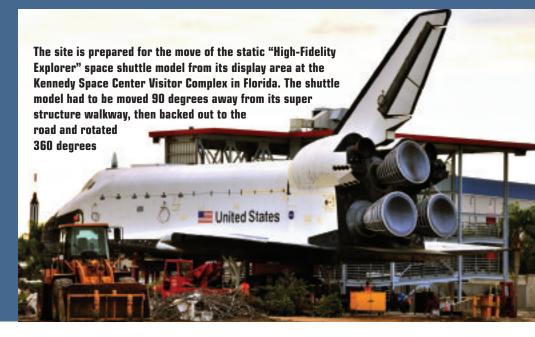








Transporting a 166,000pound space shuttle model from its display area at the Kennedy Space Center to a dock at NASA for its eventual barge trip to Houston was an adventure in specialized rigging and transport. **ACT** reports



# Shuttling the shuttle



Sitting on ground support blocks and cribbing, the shuttle model is now at the Launch Complex 39 turning basin at Kennedy Space Center. In a few months, under a separate moving contract, a barge will transport the shuttle to Houston

or any contractor, working within the realm of the United States space program is a big deal. The management team at Floridabased Beyel Brothers has completed a lot of work for NASA, and was excited to learn last fall that they had been selected to complete a highly complex rigging and moving job at NASA's Kennedy Space Center Visitor Complex.

The scope of the job was huge and involved moving the static "High-Fidelity Explorer" space shuttle model from its display area at the Kennedy Space Center Visitor Complex to Kennedy's Launch Complex 39 turning basin. Under a separate contract the shuttle model will be shipped by open barge to Texas for display at the visitor center at NASA's Johnson Space Center. The removal of

the shuttle model in Florida was required to make way for the construction of a new \$100-million, 64,000-square-foot building to display the space shuttle Atlantis.

The 5.4-mile route included travelling over a grassy yard at the visitor center, along a public road to the Kennedy Parkway, across a median and over a double railroad crossing.

Kennedy Space Center is a secure area and requires a badge for access. Traffic is usually light and workers are accustomed to road closures. Large rocket segments are often moved around the industrial area, so the only preparation for the move of the shuttle model was to remove 18 light poles and a few signs due to the wide wing span of the shuttle. All roads were closed until after the move



was completed. The move was done on a Sunday so that the disruption to the workforce was kept to a minimum. Support crews were ahead of the convoy in case anything was missed that needed to be removed.

The shuttle model weighs approximately 166,000 pounds, about the same as a regular shuttle. While this shuttle model did not have any flight hardware installed in it, it did have many structural steel reinforcements, doors and walkways to accommodate the public.

The shuttle model measured about 122 feet long, 78 feet wide and 56 feet high, landing gear to tail top. The tail top of the orbiter, including the transporter, measured about 60 feet.

Beyel Brothers chose to use its 18-line Goldhofer platform hydraulic trailer to transport the shuttle. With eight tires per line, the transport system had 144 tires. Using 400-ton jacks, the shuttle was jacked up in place. The transporter was driven under the belly of the space craft, which was then lowered down onto static supports that were lashed onto transporter. The shuttle was secured to the Goldhofer systems using grade

8 ½ chains secured with ratchet chain binders.

Other equipment on the job included a 20,000 pound forklift and a front-end loader for ground clearing.

Phil Beyel was the onsite coordinator with P.J. Beyel as the operator of the transporter and jacking system. Linden Simon drove the 75-ton Prime Mover heavy hauler.

Crews first had to lay down a temporary work area over the grass yard of the visitors' center. Measuring 20 feet wide by 300 feet long, the temporary roadway was comprised of 2-inch steel plates. Once out of the grassy area, for the most part, the terrain was flat, although the convoy had to travel the wrong way downhill on an entrance ramp to avoid going beneath the bridge over Kennedy Parkway.

# Historic cargo

Carrying such expensive cargo, Beyel crews were very careful in their plans for making a few sharp, 90 degree turns. The main obstacle along the route was to clear the 15-foot roof of NASA's security guard house and identification building check point. The shuttle model also had

Beyel Brothers chose to use its 18-line Goldhofer

# About Beyel Brothers

Dan Beyel started his hauling and rigging business in the early 1900s, taking the business from horse-drawn carriages to one of the first four-cylinder automobiles. In 1999, brothers Joseph, Philip, Steve, Danny and Mark joined their assets and bought their father's company after he became ill. Since that time, Beyel Brothers has become one of the largest crane and rigging companies in the state of Florida. The company operates six branches, including its headquarters in Cocoa.

to be jacked up again to clear the railway crossing warning lights.

Once the barge with the shuttle model on it arrives in Houston, it will be transported to NASA JSC. This will be under a separate bid contract that has not been released, although Beyel has said it will bid on this final portion of the job.

### PICTURES FROM LEFT TO RIGHT:

The first obstacle was to clear the 15-foot roof of NASA's security guard house and identification building check point

The Beyel crew stands proudly in front of their famous cargo





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The Madison Plasma Dynamo **Experiment will allow** researchers to study how magnetic fields are generated in planets and stars and get a better understanding of the sun



Installing an expensive metal sphere into a laboratory at the University of Wisconsin-Madison required some fancy footwork and overall expert rigging. **ACT** reports

ABOUT REYNOLDS TRANSFER AND STORAGE

Reynolds Transfer and Storage was founded in Madison, WI in 1888 as a livery stable and hauling firm with 10 rigs and four horses. The company was started by the current ownership's great-great-grandmother. In 1929, her sons Henry and William Reynolds took over management. In 1960, brothers Edward and David Reynolds took over the operation and further diversified its services. Today, Tom and Mark Reynolds run the company, which is a leader in the hauling and rigging of specialty items, including heavy machinery moving, crane service, office and residential relocation, record storage, and household goods storage and warehousing.

eynolds Transfer and Storage recently participated in installing a \$3 million, 11,000pound hollow, aluminum sphere for experiments and testing at the University of Wisconsin-Madison Plasma Physics Laboratory. The sphere, or chamber, which resembles a prop in a "Star Trek" movie, will be used to heat gases to 500,000 degrees F to simulate the sun's magnetic field.

In almost every instance of the project, clearances were tight, sometimes within one inch, says Benjamin Reynolds. Cews rolled the approximately 74,000-pound sand molds for Portage Casting & Mold, transported the chamber from Metallic Bonds in Beloit, WI to Madison, WI and installed the chamber in the physics lab. Reynolds iron workers fabricated cribs and other specialized equipment needed to rig and install the chamber.

Placing the chamber in Sterling Hall required crews to move the two halves, weighing about 5,600 pounds each, vertically through the doorway of the building, lower them to a horizontal position in the entrance of the building, and then roll them into the range of the overhead crane. Reynolds used its Versa-Lift 40/60 with boom to set the chambers and their transport crib onto the approach platform. Machinery dollies were used to roll them into the building.

# Tight clearances

With the chamber height of 127 inches and overhead obstacles beginning at 130 inches, the crib had to allow the bottom flange of the chamber to sit below the top of the machinery dollies, which are 6 inches tall.

After clearing the overhead obstacles,

two Lift Systems 2020SC hydraulic gantries traveled over the hemispheres. The gantries cleared the ceiling by one-inch and were positioned over the picking eyes located on the halves.

After connecting the picking eyes to the lifting apparatus using two, 2-ton comealongs, the hydraulic rams lifted the entire chamber off of the ground. Once the crew disassembled and removed the carrying crib, the gantries carried the apparatus to the opposite wall, which was within reach of a stationary gantry. In order to roll the chamber, the stationary gantry pulled up on the bottom of the chamber while the hydraulic gantry drove away from the stationary gantry.

At the pinch point of the roll, the top flange of the hemispheres cleared the ceiling by roughly one inch. In order to allow the flange to rotate this close to the ceiling, the hydraulic gantries were fitted with a rectangular lifting arrangement permitting the corner to pass above the lifting eyes. As the chambers finished the rotation into the horizontal plane, the flange cleared the walls by three inches.

The stationary gantry required legextensions to prevent tipping from the side load. Reynolds' iron workers fabricated the beam attachment, picking eyes and the gantry-leg attachments.

Once flat in the horizontal plane, the gantries lowered the chambers onto machinery dollies. Due to spatial restrictions in the entryway, both sets of gantries had to travel with the chambers as they rolled down the hallway, where they could then roll into the final room. After reaching the picking range of the overhead crane, the UW Plasma Physics Department completed the process of placing the chambers onto their permanent stand.

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The rising cost of providing healthcare benefits continues to be an issue for small and large businesses

# Who's who at the Specialized Carriers & Rigging Association



CHAIRMAN **William Stramer** Link-Belt Construction Equipment, Lexington, KY



**PRESIDENT David Lowry** Bennett International Group McDonough, GA



VICE PRESIDENT **Michael Battaini** Sheedy Dravage San Francisco, CA



**TREASURER** Bill Keen Keen Transport New Kingston, PA



**ASSISTANT TREASURER Ron Montgomery** Intermountain Rigging & Heavy Haul Salt Lake City, UT

### **ALLIED INDUSTRIES GROUP CHAIRMAN Justin Cravens**

Ridewell Suspensions, Springfield, MO

# **CRANE & RIGGING GROUP CHAIRMAN**

**Steve Freckmann** 

Dawes Rigging & Crane Rental Milwaukee. WI

### **LADIES GROUP CHAIRWOMAN**

**Margie Springer** 

Southern Industrial Constructors Raleigh, NC

### TRANSPORTATION GROUP CHAIRMAN John McTyre

McTyre Trucking, Orlando, FL

### **SC&R FOUNDATION OFFICERS**

**President: Earl Johnson** 

Southern Industrial Constructors Inc./Southern Crane. Raleigh. NC

# Vice president: Robert Moore

NBIS, Atlanta, GA Treasurer: George Young

George Young Company

# Wellness wisdom

roviding medical care continually grows more expensive and, as a result, employers across America are seeking ways to reduce the costs of providing healthcare benefits to their employees. The recent Benefits USA 2011/2012 survey results found the cost of providing healthcare benefits accounts for more than 10 percent of companies' payroll.

Just as SC&RA member companies pioneered the use of risk management to avoid costly injuries and property damage on the job, the association believes member companies can improve their financial health by improving the overall health of their employees. Healthy employees mean lower medical care costs, and numerous studies have found productivity and work quality improves in conjunction with employees' health.

To assist employees in improving their health, employers are offering a variety of wellness options. According to the newly released survey results, 91.5 percent of companies offer flu shots to employees. More than 47 percent of companies provide annual physicals, while 15.7 have an onsite health clinic available to employees. Nearly 60 percent of organizations offer health risk assessments. And 58.8 percent offer tobacco cessation programs.

Tobacco use remains America's leading cause of preventable deaths, and the occupation groups of SC&RA member companies are among those with the highest percentages of workers who smoke, according to the Centers for Disease Control. Topping the list was the construction and extraction occupational group with 31.4 percent saying they smoke. Coming in third, behind food preparation and serving related, was the transportation and material moving occupational group with 28.7 percent smoking, followed by installation, maintenance and repair occupational group with 27.2 percent smoking.

SC&RA members must also consider the generally sedentary nature of driving trucks, operating cranes and working at a desk. Diabetes - linked to excessive weight and inactivity - affects 8.3 percent of the U.S. population, and those diagnosed with it have average medical expenditures 2.3 times higher than those without. Similarly, inactivity contributes to cardiovascular disease, which accounts for one-third of all U.S. deaths.

Sleep apnea, which occurs more frequently in those who are overweight, has become an increasing concern of federal transportation regulators. Studies have shown that as many as 28 percent of commercial drivers may be afflicted.

A controlled study demonstrated that people with sleep apnea have a six times greater risk of being involved in a traffic crash and a seven times greater risk of having multiple crashes. Last December, advisory committees to the Federal Motor Carrier Safety Administration recommended that interstate drivers be referred for evaluation of obstructive sleep apnea if they have a body mass index of 35 or more.

Clearly, the stakes are high, but wellness efforts may be futile unless companies gain employee buy-in from the outset through programs that meet their needs and interests. Wellness rewards offered as gift cards – frequently for sporting goods stores, health clubs, or athletic facilities - are used by 42.7 percent of companies. More than 34 percent of companies use health and fitness products, while 31.9 percent employ insurance discounts or penalties for risk factors. Twenty-six percent use Health Savings Account contributions to reward employees for taking part in wellness programs.

At their best, successful wellness programs work hand-in-hand with affordable, reliable health insurance programs. Because finding such programs had become one of the largest challenges facing many SC&RA companies, the association now endorses a package of health care and ancillary benefits through Association Benefit Resources (ABR). The plan is insured and administered by United Healthcare, a leader in leveraging innovative technology to deliver quality and affordable health care solutions.

■ You'll find a link to ABR on SC&RA's homepage at www.scranet.org.

# **EXECUTIVE VICE PRESIDENT**



Joel Dandrea 2750 Prosperity Avenue, Suite 620, Fairfax, VA, 22031-4312, USA Ph: 703-698-0291 Fax: 703-698-0297



The 25th annual Specialized Transportation Symposium will be held March 7-9 in Kansas City. **Terry White** offers a preview

# WHAT:

2012 Specialized Transportation Symposium

### WHERE:

Westin Crown Center

### **AIRPORT:**

Kansas City International Airport

### **WEATHER:**

47 F (average March temperature)

# **MORE INFO:**

www.scranet.org

# See

C&RA will host the 25th anniversary of its Specialized Transportation Symposium, March 7-9, at the Westin Crown Center, Kansas City, MO. The event is expected to attract more than 350 specialized carriers, state and federal government officials, researchers, manufacturers and suppliers.

Some attendees will be arriving early for full-day sessions of the Mid America Association of State Transportation Officials (MAASTO), the Northeast Association of State Transportation Officials (NASTO), the Southeastern Association of State Highway and Transportation Officials (SASHTO), and the Western Association of State Highway and Transportation Officials (WASHTO), MAASTO, NASTO, SASHTO and WASHTO will continue their meetings on March 7 until they adjourn to attend the symposium's opening session in the afternoon.

Also in the morning before the opening session, SC&RA's Truck Permit Policy Committee and Transportation Safety

Art Deco architecture dominates the downtown Kansas City skyline including the "Sky Stations" atop the convention center and the Power & Light building









Overlooking Crown Center and Union Station, the Westin Crown Center offers 729 quest rooms and suites

Education & Training Committee and Pilot Car Task Force will meet. All attendees already onsite are encouraged to attend the SC&RA committee meetings; the task force meeting is open to SC&RA members only.

Annette Sandburg, CEO, TransSafe Consulting, LLC and a former administrator of the Federal Motor Carrier Safety Administration (FMCSA), will be the opening speaker. The session will address the complexities of regulatory compliance, the current priorities of the Obama administration and how that will affect attendees' companies, and the impact of regulations on state transportation agencies.

NBIS's Brent Moody, assistant vice president, Underwriting, and Robert Moore, chief legal officer, will identify the ten most common transportation losses, based on the NBIS risk management industry data and provide details about what plans need to be in place to protect a specialized transport company and its financial health.

Carol Davis, Texas DOT (WASHTO); Glenn Rowe, Pennsylvania DOT (NASTO); Tommy Thames, Mississippi DOT (SASHTO); and Angela Woodward, Indiana DOT (MAASTO) will offer industry professionals a unique opportunity to gain insight into the most critical issues in the movement of overdimensional cargo from the perspective of regional transportation officials.

Gary Risberg, a Certified Speaking Professional, will present his proven techniques to reduce stress, relax under pressure and achieve balance in life.

# Engaging speakers

John Pion, a partner in the law firm of Pion, Johnston, Nerone, Girman, Clements & Smith, P.C., will cover real life cases that exemplify issues in dealing with law enforcement and liability exposures created when operating in inclement weather.

Brian Taylor, director of sales, Intelligent Imaging Systems, will examine how federal and state agencies are using advanced technology to monitor and track safety, drivers and loads and how companies in the industry capitalize on this automation.

Steven A. Keppler, executive director, Commercial Vehicle Safety Alliance (CVSA), has been invited to discuss his organization's strategic plans to address the growing demands of enforcement, increased volume of over-dimensional cargo, the FMCSA's Compliance, Safety, Accountability (CSA) program, lack of uniform requirements and other commercial transportation realities.

Jeff Davis, C.D.S., Fleet Safety Services, LLC, will lead an interactive session that will explore ways specialized carriers can incorporate CSA strategies into their existing safety program, including fleet management techniques that will facilitate control of CSA scores to improve both safety and profits.

The final session of the symposium

will recap the 2011 winning entries from SC&RA Hauling Jobs of the Year Competition, including the movement of mining equipment in the mountains of Mexico by Tradelossa, Monterrey, Mexico; the use of a 23-foot wide, 225foot long heavy lift trailer to move an 803,000-pound generator by Barnhart, Memphis, TN.; and the move of a 67-foot long, 23-foot 8-inch wide and 21-foot high steam generator weighing 1,352,300 pounds by Emmert International, Clackamas, OR.

# Exhibit center

Still another highlight will be the Exhibit Center, featuring 30 leading companies that supply products and services to specialized carriers. AvA

Visit www.scranet.org and click on the Events tab at the top of the page to review the official program, which includes registration forms for the event, hotel rooms and exhibits. Information also is available by calling SC&RA at (703) 698-0291.

Kansas City is known as the City of Fountains with more than 200 fountains including the Muse of Missouri Fountain in downtown K.C.





# lt d

Are mobile cranes
considered commercial
motor vehicles on your
insurance policy?
Bill Smith answers
this question



s a mobile crane driving down a public highway an auto or a piece of mobile equipment? What about if the crane is parked at a jobsite? What if the outriggers are out? What if the crane is parked on the side of a public road with its outriggers deployed performing a lift?

The answer to all of these, as you might expect, is that it depends.

When considering coverage on your mobile cranes, it is important to understand the differences in policy forms your carrier of choice is using. Forget to cover your bases on this and substantial financial consequences may lie around the corner.

# Liability coverage by policy type:

Let's begin by examining the textbook definitions concerning auto and general liability as provided by FMCSA.

- CGL policies are intended to provide liability coverage for bodily injury and property damage arising out of the ownership, operation, maintenance or use of mobile equipment.
- Business Auto policies provide liability coverage for bodily injury and property damage arising out of the ownership, operation, maintenance or use of an auto. Autos are excluded by the CGL policy.

So we are now clear on what general liability insurance covers and what it doesn't. Let's take it a step further and look at the definition of mobile equipment as well as the definition for an auto as defined by ISO, the leading informational source for property and casualty insurance. For this definition we'll be looking at two versions of the Commercial General Liability coverage form. The first version,

effective October 2001 defines it as follows:

- Mobile equipment any type of land vehicles, including any attached machinery or equipment as listed in the table.
- Auto a land motor vehicle, trailer or semi-trailer designed for travel on public roads, including any attached machinery or equipment.

The July 2004 version of the coverage form uses the following statements to determine whether a vehicle is "mobile equipment" or an "auto":

- Mobile equipment does not include any land vehicles that are subject to compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged.
- Auto is defined as: Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged.

Under this coverage, the vehicle is "subject to a compulsory or financial responsibility law or other motor vehicle law in the state where it is licensed or principally garaged," it must be added as a covered auto to the Business Auto policy.

Certainly the language in the 2004 (07/04) version to the effect that "any land vehicles that are subject to compulsory or financial responsibility law" is broad enough to incorporate Part 387.7 of the FMCSRs, and therefore, render mobile cranes "autos" under the ISO 2004 CGL policy.

# The best solution?

The SC&RA Insurance program provided by NBIS uses the 2001 (10/01) version of





**Bill Smith** is executive vice president of NBIS Claims and Risk Management, responsible for sales and marketing, claims and risk management, loss prevention, safety awareness and accident investigation.



the Commercial General Liability coverage form is the best solution; it provides overthe-road coverage for mobile equipment (i.e. mobile cranes) under the CGL. This equipment would not need to be scheduled separately on a commercial auto policy. Whether on the jobsite performing a lift or driving down an interstate en route to a jobsite, your equipment is covered 100 percent on a single policy form. This solution is more cost effective as well. An insurance carrier will charge premium for all units scheduled, regardless of their utilization. By insuring this equipment under a GL policy form, you are in essence only paying premium based on the revenues being generated by this same equipment as these policies are priced based on revenue and payroll figures, not on an equipment schedule.

# Conclusion

CGL and Business Auto carriers may simply disregard the definitions in their policies of, for example, mobile equipment, and simply rely on the FMCSRs' designation of mobile cranes operating in interstate commerce as commercial motor vehicles, and therefore classify

them as autos regardless of the definition of mobile equipment in the CGL policy. This tendency would more likely occur when the CGL and Business Auto policies are underwritten by different insurance

Coverage under ISO CGL 2004 could result in the following dilemma:

- **1** A CGL carrier could consider the possibility to deny coverage for a loss involving a mobile crane, because it believes that a mobile crane is no longer mobile equipment, but an auto that should be covered under the Business Auto policy.
- **2** Business Auto carrier may deny coverage for a loss involving a mobile crane, because either it believes that a mobile crane is still mobile equipment that should be covered under the CGL

Thus, there may be an insurance coverage battle with no quick and clear resolution with the result that the crane company may end up having to defend and indemnify itself. The problem is compounded by the realities of coverage disputes. In the event of a claim, should a CGL carrier prevail in arguing that

a mobile crane is a commercial motor carrier, and therefore an auto, in a state court through a declaratory judgment action, it is quite possible that the company may not have obtained any coverage through the Business Auto policy for the mobile crane, and no coverage

In conclusion, state requirements on financial responsibility may affect mobile cranes in terms of coverage beginning with the ISO 2004 CGL policy and you need to have your insurance broker check to see what ISO policy is in your insurance portfolio.

The SC&RA Insurance program provided by NBIS offers five lines of coverage for the crane, rigging and heavy haul industry in the form of GL, Inland Marine, Auto, WC, and Excess. Multi line policies from one carrier ensure you will have one claims adjuster managing your claim across all policies. NBIS works with Insured's to understand policy coverage and the impacts their businesses. Understanding the difference in these policy forms is critical to protecting your business, let NBIS work for you to protect your business.







# Iowa Mold Tooling Co. Inc. (IMT) has announced the promotion of **Jim Hasty** to the position of vice president/general manager of IMT. Hasty has served as the company's vice president of sales for the past two years and brings more than 20 years of industry experience in management and team leadership to the position.

■ Magnetek Inc. announces the addition of **Rick Emmer** 

as an automation systems application sales specialist. Emmer has more than 17 years of experience working with material handling applications, primarily focused on conveyor integration. Magnetek also



announces the addition of **Bob** Peddycoart as business development manager of

Radio Controls and Mark Sullivan as a regional business development manager for Magnetek's Material Handling business.



# **ALL** makes appointments

To help support the company's growth and expansion in the southeastern United States, the ALL Erection & Crane Rental Corp. Family of Companies has announced five personnel appointments.

- Russell Johnson is the newest member of the sales staff at the Geismar, LA. He began as a crane operator and then worked as an erection supervisor until he moved into sales in the mid 1990s.
- Chris Elliott has joined the Knoxville sales team and comes with more than 30 years of experience. He is a third-generation crane industry veteran who helped grow his family business, Elliott Crane Service, from a 15-crane company to 50-plus.
- Jeremy Bendorf has been named safety director for the two ALL Florida branches, where he will coordinate the safety efforts for the Orlando and Tampa offices. Bendorf has more than

12 years of experience in the safety field, working as an on-site coordinator. teaching OSHA 10-hour and 30-hour training classes and performing safety audits.

- Mike Ayers has joined the ALL Family of Companies as safety director for the three ALL Carolina branches. He began his career in occupational safety in 2004 and brings experience as a construction industry superintendent and safety manager. Mike also has multiple OSHA certifications and views safety as an essential part of a successful business.
- Mike Bryant, who previously worked as aerial division manager at ALL Crane Rental of Georgia's Atlanta office, was named dispatcher for the Charleston, S.C., yard. Bill Eberly, the previous dispatcher, will be transitioning into a new role in parts procurement and as a service writer.

# 2012

**Specialized** Transportation **Symposium** 

March 7-9 Kansas City, MO www.scranet.org

### **Intermat Paris**

April 16-21 Paris, France http://en.intermat.fr/

# SC&RA Annual **C**onference

April 17-21 Austin, TX www.scranet.org

### **ESTA** awards

April 19 Paris. France www.khl.com/esta

# **Associated Wire Rope** Fabricators 2012 **Annual Conference**

April 22-25 Atlanta, GA www.awrf.org/

# Cranes & Transport Latin America

May 28 San Paolo, Brazil www.khl.com/ctla

# Link-Belt makes number of personnel changes



■ Link-Belt Construction Equipment Company has made a number of

appointments within its ranks. They include Russ Hopper, who has been promoted to vice president, manufacturing.

Hopper began working at the company 36 years ago as a welder. His roles included production manager for all processes. "No one knows the Link-Belt production system better than Russ," said Chuck Martz, Link-Belt chairman, CEO and president."



■ Don Moore has been promoted to vice president, design engineering.

After graduating from Ohio State University in 1977, Moore joined the manufacturer, headquartered in Lexington, KY, as an associate design engineer in the Tower Gantry Crane Product Group in Cedar Rapids, IA. He has managed a range of design initiatives, including hydraulic cranes, on-highway carriers and, most recently, all lattice and telescopic crawler products.

■ Jeff Horan has moved to the Link-Belt training department and been promoted to technical trainer.

Horan joined Link-Belt in 2008 as a product associate in the product support department learning the mechanics of the company's cranes and working closely with customers in the field.



Iuan Rosas has been named district service representative for Latin America in the Link-Belt

service department. Rosas was born and raised in Guatemala where he earned a Bachelor's degree in automotive technology. He has worked in the crane industry for 12 years in parts training, customer service, product support and as a service manager for large crane dealerships.

■ Darrell Knight has been named district service representative for the mid-western U.S. in the service department. Knight is a native

of the state of Colorado. He has been in the crane and construction industry for

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David McCain Partner

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Bill Smith Sr. Vice President

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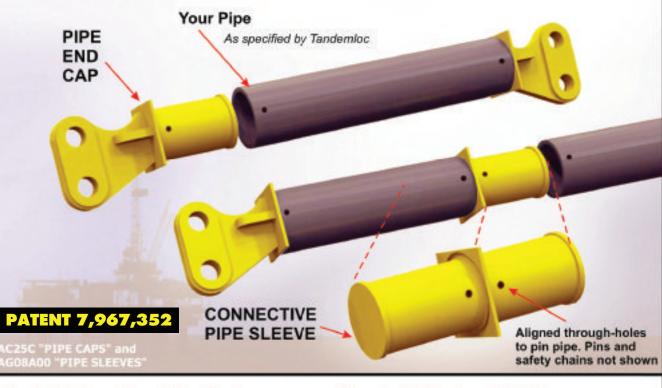
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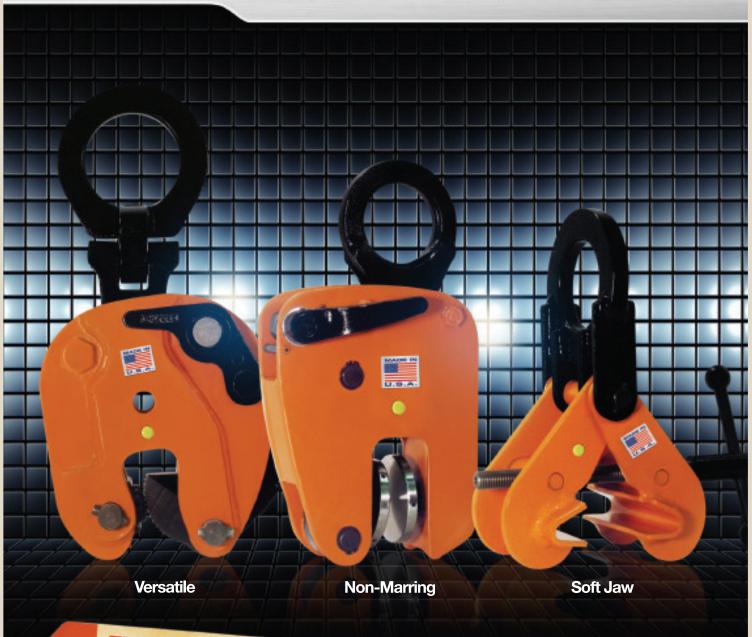
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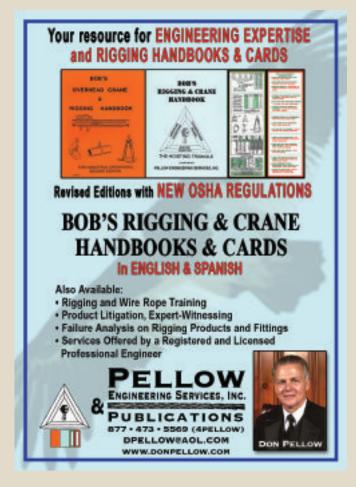
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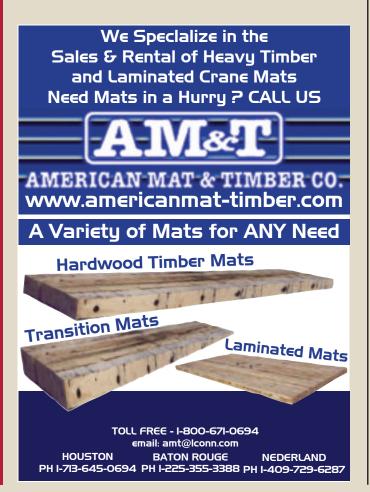
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#### Grove RT 9130E 2008

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60 Ton Cummins 6.7 liter Engine, AIC, 5 Sheave 60 Ton Block, Ball, 2 Winches, 36'-110' Main Boom, 33'56' Jib, 29.5 x 25 Tires, 3100 Hours, FOB Jacksonville Florida

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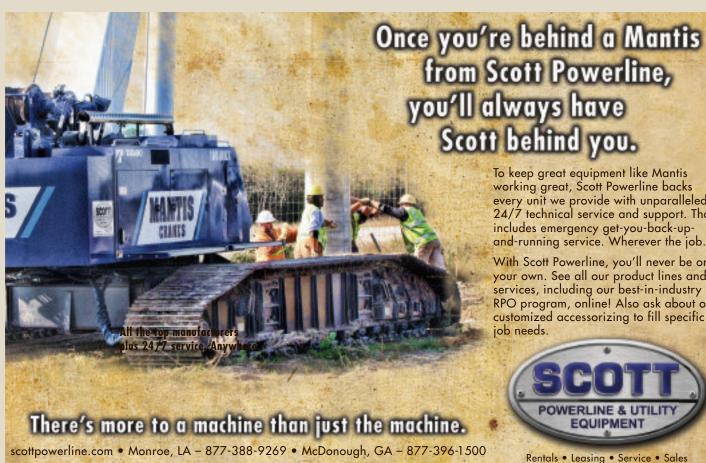
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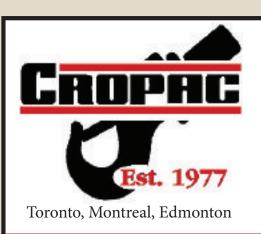


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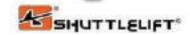
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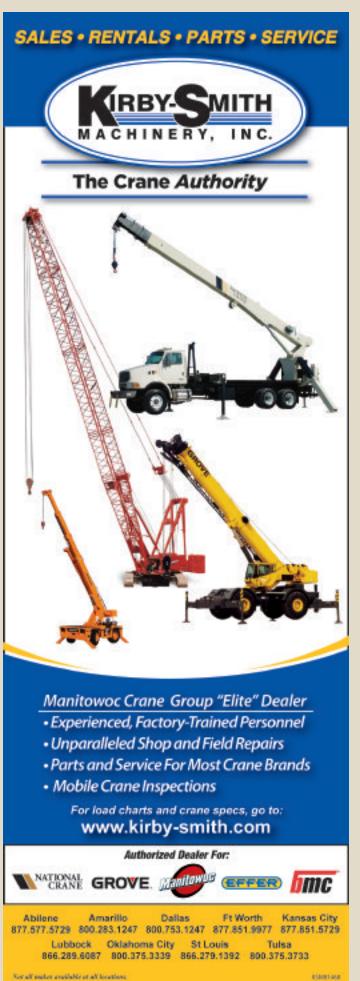
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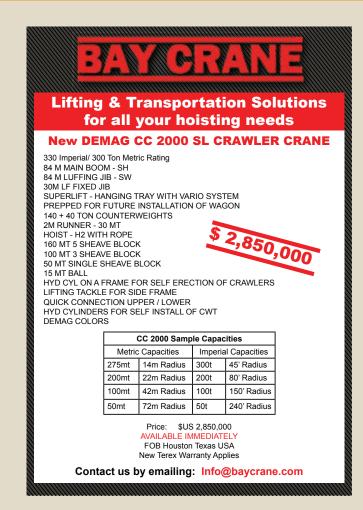












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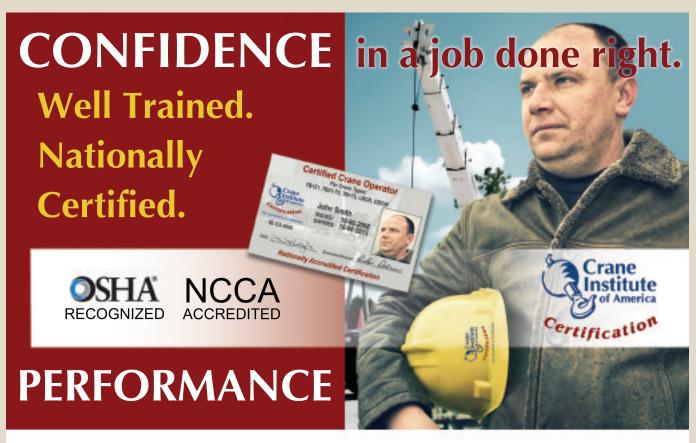


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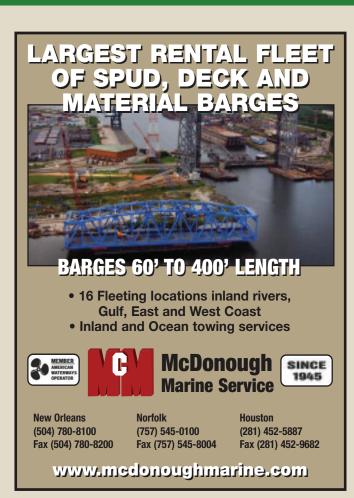
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160 TON CAPACITY 196.9' Boom Length 105' Jib Length

ATF130G-5

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**ATF220G-5** 

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