They’re back

Tower cranes reappear to signal recession’s end.
Letter from John Martello

Rough-Terrain Cranes

They’re Back! Tower Cranes Reappear to Signal Recession’s End

Truck Cranes

All-Terrain Cranes

History of the Tower Crane

Industrial Cranes

Crawler Cranes

raising the bar: The Manitowoc MLC300

Boom & Scissor Lifts

ALL Erection & Crane Rental Joins Forces With Welty/Boldt in Innovative equipment sharing at Akron Hospital Expansion

Material Handlers

Crane-Buying Spree Expands and Strengthens Fleet

Boom Trucks

Safety Managers’ Training Week Held in Cleveland

Trailing Line of Fire Hazards

Kenneth Bowyer Wins Crane Rodeo National Championship at CONEXPO 2014

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About Lift Line

Lift Line is your quarterly guide to used equipment from an industry leader and North America’s largest privately held crane and lift equipment rental and sales company—ALL Erection & Crane Rental Corp.

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Tower Crane CENTRAL: Helping Chi-Town Reach for the Sky

John Martello, General Manager, Central Contractors Service, Inc.

I was happy to hear that this issue of Lift Line was going to feature tower cranes. At Central Contractors Service, Inc., a member of the ALL Family of Companies in the Chicago area, we watched helplessly as the recession brought high-rise construction to a halt—in our city and everywhere. But I’m happy to say that the tower crane market has made a resounding resurgence within the last year and a half.

We currently have 25 tower cranes erected and in operation in the greater Chicago area, with an additional five to be erected before the year’s end. A surge in institutional work, including hospitals and universities, has offered the largest growth, with residential and office high-rise development not far behind. And that means tower cranes will be seen on the skyline once again.

If you want to know more about these incredible machines, you’ll find it in this issue—a short history of the tower crane and its development, how tower cranes work, and the newest technology to help prevent tower crane collisions.

The outlook for Central, and the ALL Family as a whole, is promising as we move forward into 2015, with many new buildings in the design phase. Every day, it seems, Central is asked to quote new projects that have proposed start dates in 2015.

And, thanks to our management, we didn’t sit idle during the recession, even if the tower cranes did. The entire ALL Family carefully and judiciously added to the fleet in preparation for the eventual upturn in the economy, and we also dedicated time and resources to refurbishing the fleet for both rental and resale.

Tower cranes in the air mean more work for all of us. Here’s to a new season in the sun.

John Martello
1 Grove RT9100, S/N 222785, 2002, 100 USt, Cummins Diesel, 114’ Main Boom, 58’ Jib, Aux Hoist. Unit #7997. Located in Orlando, Fla. $300,000.00

2 Grove RT750, S/N 86357, 1997, 50 USt, CAT Turbo Diesel, 110’ Main Boom, 56’ Jib, Aux Hoist. Unit #6549. Located in Toledo, Ohio. $135,000.00

3 Terex RT555-1, S/N 161590, 2014, 55 UST, Cummins QSB6.7L Turbo Diesel, 110’ Main Boom, 57’ Jib, Aux Hoist, AC and Heated Cab, 77’ ball, 55T 5 sheave block. Unit #10960. Currently located in Columbus, Ohio. POR

4 Link-Belt RTC-8040, S/N FJ31-4866, 2001, 40 USt, Cummins Turbo Diesel, 110’ Main Boom, 57’ Jib, Aux Hoist. Unit #7654. Located in Knoxville, Tenn. $160,000.00

5 Grove RT660, S/N 220290, 1999, 60 USt, Cummins Diesel, 115’ Main Boom, 60’ Jib, Aux Hoist. Unit #7069. Located in Knoxville, Tenn. $225,000.00

6 Link-Belt RTC-8066, S/N D7I9-1245, 1999, 65 USL, Cummins Diesel, 115’ Main Boom, 61’ Jib, Aux Hoist. Unit #8301. Located in Evanston, Ill. $219,000.00

7 Grove RT640C, S/N 220309, 1999, 40 USCS, Cummins B5.9L Turbo Diesel, 105’ Main Boom, 51’ Jib, Aux Hoist. Unit #6945. Located in Lima, Ohio. $130,000.00


9 Link-Belt RTC-8060, S/N E1I8-7941, 1998, 60 USL, Cummins Diesel, 110’ Main Boom, 56’ Jib, Aux Hoist. Newer Paint. Unit #6361. Located in Madison, Wis. $160,000.00

10 Grove RT880, S/N 87183, 1998, 80 USt, CAT Diesel, 114’ Main Boom, 58’ Jib, Aux Hoist. Unit #6478. Located in Hammond, Ind. $260,000.00
Rising hundreds of feet into the air and reaching out just as far, this familiar fixture on high-rise construction sites is hard to miss. Tower cranes are emerging once again across major skylines in the U.S., after a five-year recession that brought multi-level construction projects to a halt. Used mainly as material handlers that can deliver construction materials across the broad swath of the construction site, these mammoth machines’ comeback is a sign that global demand for new construction is on the rise, and things are finally looking up for tower cranes and their operators.

“Lights Out!” The End of Vertical Construction
Tower cranes are the harbinger of vertical construction—when you see a tower crane, you know something good’s happening in the economy, and when you don’t see a lot of them, you know something is not so right.

In late 2008, after experiencing the largest decline in employment in the post-WWII era, the waning large-scale construction market came to a halt. Projects were abandoned, leaving major cities with structural skeletons and building fragments. The once-global demand for tower cranes sadly decreased, and the big machines seemed to disappear from the horizon altogether.

“I’ve been through a lot of up-and-down cycles in my career, but the one in 2008 was the most severe I’ve ever seen,” says Clay Thoreson, ALL Erection & Crane Rental’s Tower Crane manager. As the recession caused productivity to fall, vertical construction really took a hit. “It was the deepest and it was the longest one to come back out of it. Simply put, someone turned the light switch off.”

Everybody was feeling it. Utilization across the country decreased. The financing dried up. Thoreson explains, “The financiers were requiring more and more due diligence, making it more difficult for people borrowing money. That shriveled the building market. And condominiums, commercial building—they all but stopped.”

Projects were abruptly abandoned, bringing existing tower crane rentals to a standstill. As the downturn took its toll on productivity, only a small number of projects were not affected, such as hospitals and some industrial work that was already slated to begin. “But the market itself just came to a screeching halt for tower cranes,” according to Thoreson.

Rental rates and utilization of tower cranes hit an all-time low, and some small companies did not survive. Companies were forced to sell off equipment as the condition of the market caused rental rates to tumble.

However, during this challenging downtime, the ALL Family never took a break. While continuing to supply the declining U.S. market with a high quality product, they also took advantage of their continental footprint and supplied a stronger Canadian construction market. “The Canadian ALL branches were in a better place than their sister branches in the U.S. Their market did not get hit as severely as ours, and they were a big benefit to us during this slow time,” says Thoreson. Approximately 10% to 15% of ALL’s fleet of tower cranes migrated to the Toronto and Quebec areas as the momentum in Canadian construction continued.

ALL also took advantage of this downtime to focus on servicing and repairing their inactive tower cranes. Each tower crane was given a thorough checkup and meticulously maintained so that every one was 100% rent ready. “ALL has never skimped on maintenance,” says Thoreson. “And I’m pretty proud of ALL for that. And I promise that during that downturn, customers took note of our continued dedication to self-investment.”

“Following a strict protocol of preventive maintenance, including periodic repairs and replacement of parts, ALL’s safeguarding techniques warrant that each of its tower cranes operates smoothly and is in compliance with pertinent industry standards,” Thoreson says.

And, for the duration of the economic slump, ALL not only conducted widespread overhauls of each piece of equipment, but also never ceased investing in their current inventory.

Tower Cranes Rise Again
Now, as post-recession cities come back to life across the nation, there is a dramatic increase in construction activity, and tower cranes are dotting the horizon again.

Thankfully, the recession in the construction market was only temporary. Recent expansions in the economy forecast measurable residential and industrial development.
How Tower Cranes Work: It’s All in the Balance

The hugely fascinating and revolutionary tower crane operates on the basic principle of balance. Designed to move loads of materials around multi-level construction sites, tower cranes are used especially for multi-level construction projects, high-rises, and skyscraper buildings. The tower crane consists of a central shaft and a rotating long arm or beam that uses counterweights for balance, and is versatile enough to work in tight and narrow spaces within the center of the construction site, or alongside it. They use built-in hydraulic jacks to rise alongside it. They use built-in hydraulic jacks to rise above the ground inside the construction site. The base is attached to the mast, giving the crane its height. From there, the mast attaches to the slewing unit, allowing the crane to rotate. Above the slewing unit sits the operator’s cab, the long horizontal jib (working arm), and the shorter counter jib.

Because of their size and the cost to store and maintain the crane when it’s not in use, many construction companies rent their tower cranes, paying a monthly fee for as long as the crane remains on the site. Typically, it takes between 12 and 15 truckloads, including the counterweights, to transport a tower crane.

The hassle-free rental arrangement offers contractors peace of mind, with the convenient setup, delivery, and charge a monthly fee for as long as the crane remains on the site. Typically, it takes between 12 and 15 truckloads, including the counterweights, to transport a tower crane.

News from the Guys

Thoreson explains that rates are a better measure of an improving market than utilization, since companies sitting on significant inventory and a lot of debt will throw under-utilized and often poorly maintained equipment at a market, creating price wars that can have a negative impact on job site productivity. "When had equipment becomes the norm, so do maintenance shutdowns," concludes Thoreson.

But the marketplace is busy, and rates are changing the increase. ALL’s utilization has shot back up to over 90%. According to Thoreson, “Our backlog is so substantial right now, I think I can count on one hand how many cranes we’ve got available that could go out that are not already in the air or committed to go out.” He adds, “The whole market has picked up. Our competitors are busy as well.”

The first sign of recovery for vertical construction is the increase in mid-rise construction. While condominiums

(continued on page 10)


4 **Demag AC40**, S/N 70496, 2003, 40 USt, Mercedes OM906LA, Allison Auto Transmission, 104’ Main Boom, 42’ Jib. Unit #8228. Located in Milwaukee, Wis. $250,000.00

5 **Demag AC180**, S/N 24072, 2000, 200 USt, Cummins Diesels, 197’ Main Boom, 48’ Jib, Aux Hoist, Newer Paint. Unit #7341. Located in Knoxville, Tenn. $750,000.00

6 **Liebherr LTM1060-4**, S/N 23881, 1999, 90 USt, Liebherr Turbo Diesel, 157’ Main Boom, 62’ Jib, 2 Axle Boom Dolly, Aux Hoist. Unit #246HMD. Located in Mount Pearl, NL. $325,000.00

7 **Demag AC 155**, S/N 73154, 1995, 60 USt, Mercedes Diesel—Replaced in 2012, ZF Auto Transmission, 131’ Main Boom, 57’ Bi-Fold Jib, Aux Hoist. Unit #OS61B. Located in Mississauga, Ont. $265,000.00

8 **Krupp KMK4070**, S/N 4070-8037, 1994, 85 USt, Mercedes Diesel, Allison Auto Transmission, 125’ Main Boom, 52’ Jib, Two-Axle Boom Dolly, Newer Paint. Unit #C084CH. Located in Mississauga, Ont. $250,000.00
and high rise residential construction are starting to catch up, commercial office space is starting to come back as is hospital development and expansion.

There are several reasons why residential and industrial construction are on the rise. One is the high cost of rent combined with the limited amount of available residential property for sale. This has increased the demand for more residential construction, leading to multiple investment opportunities for developers. Because the return on investment is high, financing for the projects is looming. And since interest rates are low across the nation, investment opportunities in the development of prime regions are being pursued.

Another factor contributing to construction growth is that the market is, ALL’s team of mechanics and technicians are prepared to work hard, respond immediately, and skillfully manage the highly specialized world of tower cranes.

The first crane-like contraption was recorded some 4,000 years ago in Egypt. It was a very basic apparatus made up of a long piece of wood that was balanced on a vertical support. The wooden beam had a bucket at one end and a heavy weight on the other, and the beam rotated to help the Egyptians transport water through-out their settlements.

Later, during the first century, the crane continued to evolve. The long arm, or piece of wood, became known as a boom, which was attached to a rotating base that was powered by humans or animals moving a wheel. Around the wheel was a rope connected to a pulley at the top of the boom, with a hook attached to lift the load. A horizontal arm, later known as the jib, was added to the boom during the Middle Ages, giving cranes the ability to pivot and thus increase their range of motion. Treadmills were added to each side of the rotating housing holding the boom, which were powered by humans and animals until the development of the steam engine and electric motors replaced manual power in the mid-19th century. Steel and cast iron replaced the wood, adding durability and strength. And the construction cranes we know today were born—from which developed the magnificent tower crane.

Hans Liebherr

Although advances in the tower crane made possible the construction of tall buildings, the steel and iron cranes were extremely heavy and required many steps to set up and dismantle. Also, these cranes had limited horizontal mobility and could only transport items vertically. That meant plenty of manual labor was needed to pick up and transport materials that had been dropped. There was no such thing as a fast-assemble tower crane until the mid-20th century.

In 1949, at a Frankfurt trade fair, an innovative German machine, Hans Liebherr, presented a tower crane that could be folded up, carried, and fully assembled at a construction site. Liebherr’s machine, known as the MDT 368, was a 40-foot tower crane with a slewing unit on the bottom and horizontal jib on top. Slewing units allowed the crane to rotate, giving the ability not only to hoist materials up from the ground but also to swing them around and deposit them directly onto a structure, eliminating the need for manually transporting heavy construction materials. Liebherr’s design caught on quickly and paved the way for the fast development and mass production of tower cranes.

The 1950s and 60s

The tower crane underwent enormous developments during the 1950s and 60s. During the construction boom of the 1950s, tower cranes were in high demand. To keep up with the rapid pace of construction, continual improvements were made to the tower crane’s design, providing increased efficiency. These enormous developments included:

• New control systems
• Climbing mechanisms
• Quicker erection plans
• Smaller, easier-to-assemble cranes

The jib was also altered to keep loads level with the base during the lift, and self-climbing devices were installed to enable the cranes to grow along with the building. With these adaptations, the radius of the jib increased, leading to the facilitation of taller building construction.

Mass production of tower cranes by multiple manufacturers led to the production of bolt-slewling cranes with telescoping masts. The luffing jib replaced the cantilever jib and became the norm.

History of THE TOWER CRANE

The ALL Family Expands Its Fleet to Meet Increased Demand

After spending years carefully maintaining its existing fleet, ranked nationally as number three in tower cranes by American Cranes & Transport magazine, ALL recently began investing anew. The company has invested in multiple Potain MDT 368’s from Manitowoc. This new 16-1/2 ton crane is referred to as topless, meaning its jib is not supported by suspension bars and has no top tower. It is fairly new to the market, appearing in the last couple of years. Most mid rise buildings and some industrial construction will use these cranes.

“MDT 368 would be readily used at areas that need to have the lowest profile possible,” says Thorenson, adding that they would work well at an airport where overall height is always an issue. “It would be well suited for sites with multiple cranes, where it can swing underneath the higher crane. The higher crane will not have the problem of swinging into suspension bars, because there are none.”

“It’s all frequency drive, as there are fewer electrical compo-nents,” says Thorenson. “And it’s very erector friendly. We hope this crane will go up easily in one day, which is big.”

According to Thorenson, the support cranes that would accompany the 368 would be similar to the ones used in the past. “The weights are similar to the 3617,” he says.

No matter what the economic condition of the construction market is, ALL’s team of mechanics and technicians are prepared to work hard, respond immediately, and skillfully manage the highly specialized world of tower cranes.

The first crane-like contraption was recorded some 4,000 years ago in Egypt. It was a very basic apparatus made up of a long piece of wood that was balanced on a vertical support. The wooden beam had a bucket at one end and a heavy weight on the other, and the beam rotated to help the Egyptians transport water through-out their settlements.

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2. Shuttlelift 5540F, S/N 328881, 2008, 15 USt. GM 4.3 D/F Engine, 41’ Main Boom, 15’ Jib. Unit #XL1118MU. Located in Cleveland, Ohio. $110,000.00


5. Broderson IC-80-3F, S/N 374296, 1999, 15 USt. Confidential D/F Engine, 37’ 5” Main Boom, 10’ Jib. Unit #9144. Located in Marietta, Ohio. $28,000.00

6. Broderson IC-80-3G, S/N 545046, 2006, 9 USt. GM Dual Fuel, 30’ Main Boom, 16’ Jib. 4-Wheel Steer. Unit #9294. Located in Cleveland, Ohio. $60,000.00

DID YOU KNOW THAT ALL IS A TEREX DEALER?

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ALL is the authorized Terex Tier-one dealer in Ohio, Michigan, Pennsylvania, West Virginia, and Wisconsin — part of a knowledgeable distributor network that matches customers with precisely the machine needed, complete with set-up and training to help optimize productivity.
1. **Link-Belt LS 138H5**, S/N N9J4-7425, 2004, 80 USt, Mitsubishi Diesel, 150' Main Boom, 30' Jib. Unit #8638. Located in Cleveland, Ohio. $425,000.00

2. **Mantis 20010**, S/N 200-101, 2008, 100 USt, Cummins Diesel (875 Hours), 128' Main Boom, 35' Extension Jib + 25' Jib = Total Jib 60'. Full-View Cab provides up to 20-degree operator tilt, Rear and Winch View, Cameras and Electronic Control Module, Remotely Controlled Lighting Package, Aux Hoist. Unit #10299. Located in Tampa, Fla. $925,000.00

3. **Mantis 14010**, S/N 140-150, 2005, 70 USt, Cummins Diesel, 111' Main Boom, 50' Jib, Air Conditioned, LMI and Anti-Two-Block. Unit #9029. Located in Milwaukee, Wis. $415,000.00


7. **Manitowoc 2250 S3**, S/N 2251032, 1999, Cummins N14, Approx 6150 Hours Since Engine Replaced, 180' Main Boom, 2 Drums, Newer Paint. Unit # 6804. Located in Pittsburgh, Pa. $1,300,000.00

8. **Terex HC110**, S/N AC4310, 2008, 110 USt, Cummins Diesel, Three Drums, 150' Main Boom. Unit #10283. Located in Ekhart, Ind. $650,000.00


For more than 75 years, Manitowoc’s products have come to represent the intersection of innovation and experience. Their latest offering is a real game-changer – this is not a traditional crane.

In March at CONEXPO-CON/AGG 2014, Manitowoc unveiled their new 330-US 330T lattice-boom crawler crane, which features an exclusive Variable Position Counterweight (VPC) system. This groundbreaking technology moves the counterweight to automatically balance the crane’s center of gravity and match lifting demands, with a patented rail system transferring weight accordingly from back to front. VPC works seamlessly with the boom extension for smooth, safe operations. This is brand new, innovative technology that we believe will drive enormous change and cost savings in the industry.

“We expect many of our customers will immediately see this crane for what it is – state-of-the-art,” says Rick Mikut, Crawler Crane manager, ALL Erection & Crane Rental Corp. “With the financial savings and advances in technology the MLC300 brings, we wanted to be among the first to offer these cranes to our customers.”

Anticipating the demand for these cranes to be high, the ALL Family of Companies recently purchased 10 of the new 330-US Manitowoc MLC300s, which will be available for rental in the late 2014/early 2015.

Operational Advantages
Manitowoc’s proprietary VPC technology is virtually unmatched in areas of lifting capacity and versatility. This crane can travel, swing, and counter-rotate with full-rated capacity – the strongest load charts in its class. Because the counterweight moves, the increased weight distribution allows for a better center of gravity, as well as increasing the load chart and mobility.

In addition to the VPC, the optional VPC-MAX attachment offers the ability to further increase the load chart, as well as boom and jib combination lengths. The VPC-MAX attachment increases the MLC300’s max load moment with an additional 88,185 pounds of counterweight and offers more compact tailswinging, delivering greater lifting capacity in a smaller work environment. With VPC-MAX, the counterweight movement is dictated by forward movement changes, so the counterweight reposition itself automatically as forward movement occurs, based on load lift, boom length, boom and jib length, and load radius.

The VPC-MAX counterweight assembly never even touches the ground, so job site preparation is also minimized – the MLC300 ground prep area is about 1/10th that of similar cranes. This provides immediate cost savings to contractors, not only on the engineering services related to ground prep, but also in direct rental costs, since fewer mats are needed for crane stabilization.

These innovations make the MLC300 ideal for processing, refineries, bridge work, or any tight spot requiring a big lift. It is also the only game in town for harge work, where wheeled or hanging attachments are typically not permitted.

Each MLC300 crane features an operator-friendly control interface, including two horizontally mounted full graphic displays, a jog dial for ease of data input, and advanced troubleshooting features. The crane’s page on Manitowoc’s website, the address for which is listed on page 16, includes a computer-generated video demonstrating the impressive crane’s operation.

Cost Savings
Companies using the MLC300 will realize multi-level cost savings: in site prep, transportation, and lowered counterweight (without sacrificing capacity). The crane was designed for global transport, with its optimized component weights and dimensions. It features both a removable mast and boom hoist module, reducing shipping weight. Additionally, the boom inserts hold jib inserts inside, to maximize cost-effective transportation and offer quicker assembly.

Site prep cost savings come from the reduced setup time (improved boom-handling lugs, upperworks and lowerworks ship decked, no carbody counterweights) and reduced ground-bearing pressure with VPC-MAX, which in turn reduces necessary ground preparation.

Imagine a bustling refinery during a planned maintenance shutdown. Many cranes in several work zones, each performing scheduled activities and operating on a tight timeline. Planning, productivity, and uptime are second only to safety on these sites.

One work zone calls for a medium-sized crawler with a derrick attachment to counterbalance the pick’s long forward reach, but an abundance of underground piping calls for careful crane placement and thorough ground prep. And, as soon as this pick is in the bag, the crane will need to travel through some tight, industrialized corridors to position itself for yet another critical lift the following day.

This is the ideal scenario for the new MLC300. The MLC ships to the site with less counterweight, creating immediate savings in transport. The contractor can plan for dramatically less ground prep since the MLC300, in its VPC-MAX configuration, operates on only 1/10 of the footprint of similar cranes with wheeled attachments. The MLC300 requires a fixed 22 sq. ft. of operating ground, regardless of whether a derrick is employed or not. Then, when the crane needs to travel to a new location, the MAX, with its variable counterweight positioning, simply tucks its derrick-like balancing weight to its innermost position, reducing tailswing from its maximum distance of just under 54 ft. to just over 27 ft. Aside from improving maneuverability, this is a huge productivity savings, since the crane did not require disassembly and reassembly to move from one relatively close work zone to another.
1 Snorkel TB60, S/N 983037, 1998, Deutz Diesel Engine, Foam-Filled Tires, 60’ Telescopic Boom, 4x4. Unit #Z6719. Located in Richfield, Ohio. $13,000.00


3 Grove T60, S/N 256409, 2000, Deutz Diesel Engine, 60’ Telescopic Boom, 4x4. Unit #ZAM756. Located in Richfield, Ohio. $13,000.00

4 Snorkel TB42, S/N 992463, 1999, Dual Fuel Engine, 42’ Telescopic Boom, 4x4. Unit #Z69560L. Located in Lima, Ohio. $8,500.00

5 Snorkel TB80, S/N MR00015, 2000, Cummins Diesel Engine, Foam Filled Tires, 80’ Telescopic Boom, 4x4. Unit #Z7640. Located in Richfield, Ohio. $18,000.00

6 Snorkel TB120CU, S/N 9932401, 1999, Cummins Diesel Engine, 120’ Telescopic Boom, 4x4. Unit #ZA7640L. Located in Pittsburgh, Pa. $25,000.00

7 JLG 150HAX, S/N 0300024038, 1996, Cummins Diesel Engine, Foam-Filled Tires, 150’ Articulating Boom, 4x4. Unit #Z7520. Located in Richfield, Ohio. $65,000.00
ALL Erection & Crane Rental Joins Forces With Welty/Boldt in Innovative Equipment Sharing at Akron Hospital Expansion

The massive $200 million Akron Children's Hospital expansion project, which began in the spring of 2013, brought a novel construction concept to Ohio along with the promise of more accessible care for the families and children of Akron.

In a unique arrangement, ALL Erection & Crane Rental Corp., the crane rental company, and the general contractor, Welty/Boldt, LLC (a joint venture between Welty Building Company LTD. and the Boldt Company), entered into an innovative sole-supplier agreement. The GC acted as the primary renter of all the lift equipment from ALL and then rented it to the subcontractors—a method that helps to eliminate waste, cut costs, improve productivity, and create positive outcomes.

ALL sales representative Mike Garrity worked with Tom Conti, Welty’s lead superintendent on the job, to secure the contract. The two have previously joined forces on numerous projects, enabling Tom to become familiar with the breadth and depth of ALL’s fleet. But it wasn’t merely ALL’s extensive equipment reserves that sealed the deal, although Garrity jokes that “We’re definitely the Home Depot of lift equipment.”

The innovative agreement is guided by the principles of the Integrated Lean Project Delivery® (ILPD) system, by which the entire Akron project is being run. Coordination and cooperation are the keys to success, since one of the main operating principles of the process involves both daily and weekly pre-planning meetings.

The ILPD system also requires the sharing of equipment between subcontractors. For example, if one crew requires a telehandler for just three days and another needs it for two, project managers designate a shared usage schedule. While the usual method is for crews to arrange their own equipment rentals, significant savings are achieved by careful scheduling. So far, the system is generally working well, although if for some reason one crew can’t be accommodated, another piece of equipment is rented from ALL, as the sharing scheme has allowed for some flexibility in the budget.

In such a situation, careful strategic planning is required. Conti maintains an equipment board listing all the machines currently on site. And scheduling is further affirmed at the daily 6:30 a.m. huddle, when superintendents and foremen discuss the tasks to be completed that day. On Fridays, discussion is directed toward the next six weeks of work, ensuring that every team is on track to achieve its goals.

"There is generally between 30% and 35% waste on a project of this size," Conti reports.

The Akron Children’s Hospital project is the first time such a strategy has been attempted in Ohio by Welty/Boldt. It’s also the first time one equipment provider has been engaged to support a project of this magnitude.

"That amounts to a staggering $60 million in this case. We have to contain our costs, and an excellent way to do that is to strategize our equipment usage. ALL works with us as a team, and that’s exactly what we need." Emphasizing the teamwork is the on-site ALL mechanic, who maintains and repairs the equipment should any issues arise. Downtime and delays are thus avoided at all costs, ensuring that everything continues to run on schedule.

Construction will be completed in 2015.
1 SkyTrak 8042, S/N 0160038271, 2008, 8,000-lb Capacity, Cummins Diesel Engine, Enclosed Cab, Light Kit, Block Heater, Tilt Carriage, Foam Filled Tires, 42’ Telescopic Reach, 4x4. Unit #10124. Located in Cleveland, Ohio. $64,000.00

2 JLG G9-43A, S/N 0160011527, 2005, 9,000-lb Capacity, Diesel Engine, Enclosed Cab, 43’ Telescopic Reach. Unit #J9324TOL. Located in Toledo, Ohio. $40,000.00

3 Gradall 534D-45, S/N 0644364, 2001, 9,000-lb Capacity, Diesel Engine, 45’ Telescopic Reach. Unit #3610RL. Located in Toledo, Ohio. $30,000.00

4 JLG G6-42A Turbo, S/N 0160013770, 2005, 6,000-lb Capacity, Diesel Engine, Tilt Carriage, Enclosed Cab, Heater, 48” Pallet Forks, 42’ Telescopic Reach, 4x4. Unit #DL3033MLW. Located in Elk Mound, Wis. $35,000.00

5 Gradall G6-42P, S/N 0160013877, 2005, 6,000-lb Capacity, John Deere Diesel Engine, 42’ Telescopic Reach. Unit #G433ATL. Located in Atlanta, Ga. $42,500.00

6 Lull 944E-42, S/N 0160013877, 2005, 6,000-lb Capacity, Cummins Diesel Engine, Foam-Filled Tires, Enclosed Cab, Work Lights, 48” Tilt Carriage, Strobe Light, 42’ Telescopic Reach. Unit #9005. Located in Chicago, Ill. $42,000.00

7 Gradall 534D-6T, S/N 588442, 1998, 6,000-lb Capacity, Cummins Diesel Engine, 34’ Telescopic Reach, 4x4. Unit #3430RL. Located in Tampa, Fl. $15,000.00

8 Gradall 544D-10, S/N 0160002417, 2003, 10,000-lb Capacity, John Deere Diesel Engine, 54’ Telescopic Reach. Unit #G381ATL. Located in Atlanta, Ga. $34,000.00

9 Gradall 534C-6, S/N 0388258, 1996, 6,000-lb Capacity, Diesel Engine, New Engine, New Radiator, 34’ Telescopic Reach. Unit #79542. Located in Cleveland, Ohio. $20,000.00
The ALL Family of Companies has once more added to its industry-leading equipment fleet with a variety of new purchases, all announced either just prior to or at CONEXPO-CON/AGG 2014 in Las Vegas, Nevada.

Foremost is the acquisition of 10 new 330-USt Manitowoc MLC300s, featuring the exclusive Variable Position Counterweight (VPC) system. A complete review of this groundbreaking technology can be found on page 16. But strengthening demand and a robust used crane sales market has created an optimistic atmosphere and has led to purchasing in virtually every crane category—from tower cranes to long-reach aerials, from industrial carry decks to big ATs.

Following is a wrap-up of what ALL bought, how the company expects the equipment to benefit customers and beef up the fleet, and specifics from the equipment’s feature sets that deserve extra attention.

**Grove RT770E (70 USt/65 T) Rough-Terrain Crane**

Recently introduced at CONEXPO 2014, Grove’s new RT770E rough-terrain crane offers the longest boom in its class (138 ft/42 m) and is specially designed to give customers all the benefits of a traditional Grove RT plus extra-long reach. ALL bought two (2) of these cutting-edge machines. The boom and chassis make the RT770E lighter and easier to transport while maximizing both structural capacity and stability. Grove was able to lengthen the boom without adding more size and weight to the chassis. This enables the crane to be maneuverable, while delivering greater lift capacity and longer reach than other cranes in its class. This is a big part of what drew ALL’s interest at CONEXPO.

**30-Crane Link-Belt Package**

On the eve of CONEXPO, ALL released word that they had agreed to a 30-unit Link-Belt crane package, including four (4) of Link-Belt’s latest and largest rough-terrain model, the all-new 150-USt (135-T) RTC-80150 Series II.

The RTC-80150 is among the capacity leaders in the large-RT market, but with six tires on a hydrostatic drive, it moves easily around tight job sites—working at extra-long reach. ALL bought two (2) of these cutting-edge machines. The boom and chassis make the RT770E lighter and easier to transport while maximizing both structural capacity and stability. Grove was able to lengthen the boom without adding more size and weight to the chassis. This enables the crane to be maneuverable, while delivering greater lift capacity and longer reach than other cranes in its class. This is a big part of what drew ALL’s interest at CONEXPO.
a dramatically lower profile and achieving a turning radius of less than 22 ft. This machine can break down in less than an hour and then reduces transport costs by traveling within weight restrictions achievable by similar capacity RTs only by removing the main boom.

For even greater versatility, the RTC-80150 has four independent steering modes consisting of two-wheel front, four-wheel rear, six-wheel, and crab, which the operator can select in the cab and control from the steering wheel. And featuring a 42.3–95.3-ft (12.9–59.5-m) six-section, full-power latching boom, the RTC-80150 rivals any competitor in its class for load capability.

Rounding out the 30-crane package are three (3) HTC-8090 telescopic truck cranes, eight (8) 218 HSL lattice boom crawler cranes, six (6) 238 HSL lattice boom crawler cranes, two (2) TCC-750 telescopic crawler cranes, and seven (7) TCC-1100 telescopic crawler cranes.

The 14 mid-capacity crawlers—Link-Belt 218 HSL (110 USt/104 T) and Link-Belt 238 HSL (150 USt/135 T)—are a huge addition in and of themselves. Says Rick Mikut, Crawler Division Manager, ALL Erection & Crane Rental Corp., “Our crawler fleet is under consistent demand in all sectors and all geographies. I emphasize consistent since not so long back we were talking about surges. This is the kind of demand we like to plan and grow around.”

Grove GMK6400 (450 USt/400 T) All-Terrain Crane

ALL came home from CONEXPO with more new firepower: the GMK6400, one of Grove’s newest offerings and the lifting industry’s most powerful six-axle all-terrain crane. The GMK6400 offers the best load chart in its class and a variety of cutting-edge features that crane users won’t find anywhere else. In addition to an innovative removable outrigger box and self-rigging auxiliary hoist, the self-rigging MegaWingLift™ attachment bumps up the capacity by nearly 70 percent. The GMK6400 will work out of the ALL Crane Rental of Florida branch in Tampa.

Liebherr LTC 1045-3.1 (45 USt/40 T)

Anyone who visited the Liebherr booth at CONEXPO could look up to see the 25-ft elevation on the 45-USt Liebherr LTC 1045-3.1’s single cab. That’s right, single cab. The single cab of the LTC 1045-3.1 telescopes forward or back for either driving or crane operations. In addition, while performing crane operations, the cab can be boosted up to elevate the operator over 25 ft, providing an unparalleled view of the work site. Lettered for and heading to our Chicago based Central Contractors Service operations, the ALL Family was proud to add to our fleet another “City Crane,” a popular nickname for this unit because it is compact and nimble and loves narrow spaces.

Genie SX-180

ALL Aerials, a member of the ALL Family of Companies, announced the purchase of four (4) new Genie SX-180 aerial lifts, one of the highest-reaching self-propelled booms in the world. The first unit in the package was showcased at CONEXPO.
ALL added 30 Broderson industrial cranes in a package headlined by 22 of Broderson’s 15-USt IC-200, with the first IC-200 in the package on display in the Broderson booth.

The IC-200 offers 30,000 lbs of lifting on outriggers and a 17,000-lb pick-and-carry capacity. The compact 7-ft 11-in crane is ideal for traversing plants and, once in position, it offers a continuous 360º boom rotation, sheave height of 73 ft, and horizontal reach of 66 ft. The deck delivers 66 sq ft of load space, with a 17,000-lb deck-only carrying capacity.

Twelve (12) new RT-300-2G rough-terrain cranes (15 USt/13 T) were added, marking the first time in a decade ALL has tapped Broderson for more than their popular industrial cranes. The new small-capacity RTs have exceptional pick-and-carry ability (8.5 USt), and their small size (11 ft 2 in tall by 8 ft 4 in wide) makes them an agile addition for plant maintenance applications such as oil refineries, petro plants, steel mills, and large mechanical contractors.

Two (2) units were delivered in the weeks following CONEXPO, with the balance of the order to be filled within four months.

For more information about renting or purchasing one of these new units, please call ALL at 216-524-6550 or toll free at 800-232-4100.

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1 Potain Model MDT 178 (9787), 2007, 11 x KRMT 639A Tower sections, 1 K60/60, 1 Set of P800US Anchors, Standard Tower Winch: 79 KW SL/WB, Trolley for (2/4) Part Operation, Power Cord 200”, Aux Crane (Maintenance Davit), (6) Poured Counterweights (6) Big & (2) Small, Crane Manual. Located in Madison, Wis. Available after present job complete, approx. 5-28-14. $325,000.00


1 R-1782 new 2007 Terex 4792 23.5 USt stand up to operate crane, 92’ main boom 31’ to 44’ jib, Mounted on a 2014 Peterbilt 348 chassis, 345-HP 1,000 ft. lbs, 8LL transmission, 60,000 lbs GVW.

2 R-882 new 2005 Fassi F60A.22 Knuckle boom crane, reach of 23’ 4” lifting 1,764 lbs. Mounted on a 2005 Isuzu 14,500 lb GVW chassis, automatic, 190-HP diesel new never titled.

3 R-1793 2000 National 13105 30 USt riding seat crane, 105’ main boom. Mounted on a 2000 Freightliner FL-80 chassis, A/C, 58,000 lb GVW.


5 C-209 new 2006 Cormach 25500E6 Knuckle boom crane, top seat controls, 50’ 10” lifts 2,070 lbs.

6 C-1001 new 2006 Cormach 51800E6 Knuckle boom crane, top seat controls, 73’ lifts 2,293 lbs.

7 R-1815 2006 Terex 4792 23.5 USt stand up to operate crane, 92’ main boom, 26’ to 44’ jib, Mounted on a 2006 Sterling LT-9513 chassis 410-HP, 8LL trans, locking rear axles, 60,000 lbs GVW.


9 C-1177 New National NBT45127 45 USt riding seat crane, 127’ main boom, 31’ to 55’ lbs, A/C and Heat in operator’s cab that can be mounted on any of our stock chassis or customers, Chassis meeting factory requirements.

10 R-1774 2001 Manitex 1770C 17 USt stand up to operate crane, 77’ main boom. Mounted on a 2001 Sterling LT-8513 chassis, Cat 275-HP, A/C, 60,000 lb GVW.
There is no job so important or any deadline so urgent that we cannot take the time to work safely.

In late May, ALL safety managers from all over the country came together in Cleveland to attend a week-long summit on safety. This forum allowed for a deep dive into classes, meetings and hands-on training focused on comprehensive preparation, planning, sharing of best practices and skills development in all aspects of safety-related areas. The seminar was well attended, with approximately 15 safety managers from different branches in attendance, and an array of impressive presenters offering interactive training as well as classroom-style lectures, with active Q&A.

The seminar’s rich agenda included the following sessions and presenters:

- Mobile Crane Inspection/Rigging Inspection – presented by representatives from the Crane Inspection & Certification Bureau (CICB)
- Department of Transportation (DOT) Fundamentals – presented by representatives from Zurich Insurance Group (Zurich)
- Environmental Compliance and Waste Stream Management – presented by Envirosafe
- Fall Protection: Demonstrations and Product Review – presented by representatives from Capital Safety’s DBI Sala Fall Protection Products

The seminar’s rich agenda included the following sessions and presenters:

- DOT Fundamentals: Department of Transportation Fundamentals were the focus of this eight-hour training session, presented by Zurich, a leading multi-line insurer that serves customers globally and locally. "This session was critical," explained Kirk Ward, safety director for ALL Erection & Crane Rental Corp. "Federal law is constantly changing, and keeping our whole team abreast of these changes is important. At the end of the day, it’s each safety manager’s job to ensure internal DOT programs are kept current and relevant. The national changes have major local ramifications."

As one of the world’s top commercial insurance companies, Zurich’s representatives shared valuable insight with the attendees about evaluating risk and claims avoidance in all aspects of drafting, revising, implementing and regularly updating a DOT compliance program.

Environmental Compliance and Waste Stream Management: Environmental compliance and waste stream management were the focus of this eight-hour training session, presented by representatives from Zurich Insurance Group (Zurich). This training session was led by CICB, an authoritative organization that provides comprehensive training and certification to crane operators. The seminar’s rich agenda included the following sessions and presenters:

- Mobile Crane Inspection/Rigging Inspection – presented by representatives from the Crane Inspection & Certification Bureau (CICB)
- Department of Transportation (DOT) Fundamentals – presented by representatives from Zurich Insurance Group (Zurich)
- Environmental Compliance and Waste Stream Management – presented by Envirosafe
- Fall Protection: Demonstrations and Product Review – presented by representatives from Capital Safety’s DBI Sala Fall Protection Products

- "We have thousands of pieces of lift equipment, a fleet of trucks, trailers, and that’s not counting the service trucks and all the other fleet vehicles that we maintain at ALL. We have to keep our customers happy, our trucks running smoothly, and our operations running efficiently. The DOT’s substance abuse training ensures our compliance and reduces the risk of accidents and mishaps that could be costly for our company." Ward explains. "The side benefit of the training was the meet-and-greet with ISP and our people. There is a lot of advantages to streamlining safety equipment through a central purchasing system, but it’s good, with 37 branches spread throughout North America, that our managers are a part of the decision-making process." Ward concludes.

In Summary: Investment in regular training of managers and employees can translate into tangible improvements in terms of corporate compliance and personal behavior. Safety managers are up to speed on the latest trends and best practices in the field, ensuring that all employees are aware of the consequences of not following safety guidelines. This awareness helps prevent accidents, injuries, and unnecessary costs, improving overall safety and productivity.

Author Bio: Kirk Ward is Safety Director of ALL Erection & Crane Rental Corp., headquartered in Cleveland, Ohio. The recipient of the 2010 Corporate Top Trainer award from Crane Hot Line magazine, Mr. Ward oversees the training program and the work of the safety managers at each of the company’s 37 North American branches. Safety is a core value of ALL Erection & Crane Rental Corp.; therefore, the company is committed to providing a safe and healthy work environment in which all employees are encouraged to play an active role. Many ALL branches are recipients of multiple safety awards for zero accidents, zero recordable injuries, safe operation, and more.
“Line of fire” is a military term that describes the path of a discharged missile or firearm, but it’s come to mean the dangerous path that any object can travel when released with force. For everyone working with or around construction equipment, it is critical that they be trained to recognize and avoid line-of-fire hazards.

When we understand and appreciate the machines and operations in our work areas and take the time to think about the consequences that result from errantly walking, standing, working, or operating other equipment near moving hazards, we can prevent injuries—for ourselves and others.

Line-of-fire hazards are sometimes obvious, but sometimes seem mundane. A person could be struck by flying or projectile objects such as pressurized fluids, motorized equipment, and lifted materials, or could be caught between rotating machinery and tools. But all around the construction site are potential line-of-fire injuries waiting to happen—from small tools (hammers, wedges, wrenches, etc.), crane booms and rigging, and overhead work in progress.

(continued on page 346)
Many machine hazards can be controlled by guards, electrical equipment, and various devices, such as chocks, blocks, and valves. Removing these devices without considering what may happen next can cause a crushing hazard.

Other examples of gravity hazards include items dropping from material-handling equipment, falls from conveyors and elevated platforms, or materials falling when stacked too high.

Gravity

• Gravity is another type of stored energy that must be considered a potential hazard. Example: a large overhead garage door is held up by a spring and a few moving parts; any Failure could cause it to come crashing down. Standing under it places you in the line of fire. Rather than walk under an elevated garage door, use a pedestrian door instead.

• Gravity is a constant force that we often restrain by using various devices, such as chocks, blocks, and valves. Removing these devices without considering what may happen next can cause a crushing hazard.

• Other examples of gravity hazards include items dropping from material-handling equipment, falls from conveyors and elevated platforms, or materials falling when stacked too high.

Moving Machinery

• Moving machinery can present various dangers. When working around any type of moving machinery, you must understand the movements and actions of the machine.

• Ask for assistance to be sure you understand the various hazards presented by the machinery in your work area.

• Many machine hazards can be controlled by guards, electric beams, pressure mats, and other safety devices, but DO NOT depend on them for your safety.

• Oftentimes, it is the combination of two mistakes that leads to an injury, such as a guard being removed and then a hand being placed near the turning gears of a machine.

• Remember, moving equipment has no brain, but YOU do. You must use it to avoid placing your body in the line of fire.

• Do not be fooled by machine parts that aren’t moving; a machine can start up at any time unless it has been properly shut down and removed from service.

Flying Debris and Projectiles

• Another line-of-fire hazard that must be taken seriously is flying debris. There are many operations we perform that create flying debris and projectiles. Before starting these types of operations, make sure to protect yourself by wearing the proper PPE and performing the task in a safe manner.

• As the operator of the equipment, it is your responsibility to know where the debris might go and ensure that no bystanders are in harm’s way.

• All workers in the area should understand that projectiles can be thrown from many types of operations and that a safe distance must be maintained. Coming too close, especially without wearing proper protection, places anyone in the line of fire.

• If tools, parts, or other loose items are stored where they may fall into rotating equipment, they can become projectiles. Be aware of this hazard and keep it in mind when scanning your work area for potential hazards. For example, before using a drill press, take a quick look to make sure the key was not left in the chuck. Once the press gets up to speed, the key can fly out with great force.

Opening/Closing Energy Control Devices

• Any time we open or close various types of energy control devices, such as an electrical disconnect or a valve in a pressurized system, there is a potential hazard.

• When an energized electrical switch is opened or closed, there is the potential for some type of electrical arc flash event to occur; this is why qualified electricians are trained to wear the correct PPE and to stand to the side when performing this function, so that they are not in the line of fire of an arc flash.

• Similarly, when opening a valve that may be under pressure, also stand to the side so you are not exposed to a high-pressure sure release.

• Standing to the side when opening switches and valves is a good practice that can help keep us out of the line of fire.

Automated Equipment

• Identify the potential for stored energy.

• Verify Zero Energy through vents, drains, and lockout/tagout systems.

• Anticipate where the energy may be released and what objects or people the energy will impact.

• Know in what direction those objects may be propelled.

• Stay in a safe zone (proper body position) away from the line of fire.

If you wait until you see it coming, it may be too late. Staying out of the line of fire usually boils down to hazard awareness. As you plan each task, look for the line of fire so you can take protective measures. Take the time to anticipate where and how energy could be released. Then adjust your body position to ensure that you will remain outside of the line of fire.

Contact With Stationary Hazards

• Avoiding the line of fire usually means avoiding moving parts, but since we are always moving about the workplace, we must make sure that our own movement doesn’t bring us into contact with a stationary hazard.

• Various items can be extremely hot or cold, and inadvertent contact may cause injury.

• Unprotected contact with certain chemicals can cause injury or illness.

• Contact with exposed live electrical parts can cause serious or fatal injury.

STEPS TO PREVENTING LINE-OF-FIRE INJURIES:

• Identify the potential for stored energy.

• Verify Zero Energy through vents, drains, and lockout/tagout systems.

• Anticipate where the energy may be released and what objects or people the energy will impact.

• Know in what direction those objects may be propelled.

• Stay in a safe zone (proper body position) away from the line of fire.

• Do not be fooled by machine parts that aren’t moving; a machine can start up at any time unless it has been properly shut down and removed from service.
Kenneth Bowyer Wins
Crane Rodeo National Championship at CONEXPO 2014

In the last issue of Lift Line, we asked you to root for crane operator Kenneth Bowyer at the National Crane Operator Rodeo Championship at CONEXPO in March. And, if you remember, after he won the 2013 regional Crane Rodeo competition last November, he vowed to wear his special Stetson for the occasion.

So, did the Stetson bring him success?

Bowyer was indeed the winner of the national title. “I felt so proud to represent the company and bring us this honor,” he says. As for the Stetson, “I wore it before the competition, but not inside the cab so it wouldn’t impede my vision. This competition is about safe crane operation and the importance of training and skill.”

Bowyer, from ALL Crane Rental of Florida, LLC, drove a Liebherr 1220-5.2 all-terrain crane in the demanding competition, which he completed in just 15 minutes including four minutes of demanding, white-knuckle driving challenges. The annual event is a partnership between CIC and Maximum Capacity Media, publisher of Crane & Rigging Hot Line magazine, to help promote crane operation as a skilled profession.

Ken received a belt with a buckle inscribed “CIC–Crane Hot Line Magazine National Crane Skills Champion 2014.” He was also awarded a check for $2,000, a miniature Liebherr LR 1100, and a monogrammed jacket.

“Nearly 80 people from ALL were there to support me,” Ken said. “I had to give it everything I had.”