

SEPTEMBER 2017

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**HOW ROCK
GETS BROKEN**



**HEAVY LIFTING IN
THE 21ST CENTURY**



**DAKOTA WOOD GRINDING
POWERING ST. PAUL**



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How rock gets broken

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How rock gets broken



Photos by Todd Harrington
Plum Cove Photography

Lead Blasting Supervisor Blake Kerrigan begins the process of priming boreholes for the loading of explosives.

by Colleen Suo

The physics of how rock gets broken is the same as it was over a hundred years ago when Alfred Nobel perfected the use of nitroglycerine as an explosive upon his invention of dynamite.

The application of those principles has been evolving ever since through determination, sweat and technology. The art of the blast is still a relative term and it still takes a special breed to perform this necessary service. Just as in all industries and disciplines in which you can teach the technical steps and actions — there are those

who have an intuitive understanding of how things work.

Such was the case with Ted Purington, Sr. when he and his wife Judy founded Maine Drilling & Blasting in 1966. With a \$2000 loan and sheer determination they began in the kitchen of their farmhouse in Gardiner, ME. Since then Maine Drilling & Blasting (MD&B) has grown from a family-owned company to an employee-owned company with operations covering the northeast and mid-Atlantic servicing the needs of the construction, mine and quarry sectors. In ad-

dition to drilling and blasting, MD&B offers hoe ramming, rock bolting and micropiles.

At their seasonal peak, MD&B's workforce can reach approximately 430 employees. Of those, roughly 125 are dedicated to the quarry division, which was developed in the mid 1980s to focus on the disciplines of quarry blasting. Today, the quarry division represents about 40 percent of Maine Drilling & Blasting's revenue stream by servicing over 180 quarries across 10 states, in pits ranging in production from 10,000 to 1.5 million tons per year. Most of the drilling and blasting is done in the aggregate and light aggregate sectors, with some in the mineral sector.

Celebrating 50 years in business in 2016, MD&B has executed over two million controlled blasts during their tenure. Corporate headquarters are still in Gardiner, ME, although decisions today are made around the conference table instead of the kitchen table.

Mitch Green, senior vice president, explained that today Maine Drilling & Blasting's ability "to provide a turnkey quarry operation which includes a vertically integrated drilling and blasting platform, as well as 100 percent crushable service is an important differentiator from our more traditional competitors. Add our quarry planning and our technology capabilities to that, and Maine Drilling & Blasting offers a true partnership." Green went on to point

out that MD&B is a solutions-driven company. Having diverse resources in drilling, blasting, engineering and education brings the proper application to a quarry's problem providing the right solution.

Among the tangible resources at their disposal is their fleet of around 100 drills and 65 pieces of rolling stock, represented by bulk trucks for the pumping of emulsion.

Maine Drilling & Blasting's fleet of hydraulic equipment is complimented by their strategic alliance with Atlas Copco. This alliance introduces MD&B to innovative technology before it is released to the general market, giving them the edge. This edge began in 1987 and carried into the 1990s when MD&B jumped into using hydraulic drilling rigs when other drilling and blasting outfits were hesitant to make the change.

Todd Barrett, another senior vice president explained part of their relationship with Atlas Copco is working together to develop the drilling technology that fits MD&B's needs. They test technologies that Atlas Copco thinks the industry needs or wants and then MD&B provides honest feedback to create a better drill — which only enhances their edge.

When asked how bore tracking and laser profiling were incorporated into a job by the individual teams, Barrett re-



Left to right: Lead Blasting Supervisor Blake Kerrigan, Drill operator Travis Gross, and Division Manager Pete Bennett discuss drilling conditions on the bench at Aggregate Industries — Littleton, MA Quarry.

How rock from 3



Division Manager Pete Bennett (L) and Division Superintendent Kevin Godfrey discuss the loading plan for the day.

sponded by saying that those features were utilized as a safety check. First by helping the team to see what the face burden is as drilled versus their blast design, and second it is a way to optimize the blast design. He went on to say, "Understanding where to place the explosives in our face holes — through technology — often confirms what a blaster is seeing. However, sometimes that technology directs the blaster to make adjustments, which provide the optimum blast and safety results required by the customer."

The customer in this case is Aggregate Industries — Littleton, MA Quarry, where we were given an insider's view to the art of the blast during a recent blast. The quarry is a substantial ready mix concrete supplier due to its production levels and proximity to the greater Boston area.

The quarry's footprint is approximately 85 acres and is surrounded on all sides by neighborhoods and businesses, with some houses within 600 feet of production blast levels.

The relationship between Littleton, MA Quarry and Maine Drilling & Blasting began in 2012 after they were awarded some trial shots. Then after a successful first year, they were awarded a three-year contract and began implementing a Blast Optimization Team (BOT). They have continued the relationship on an annual basis since.

According to Pete Bennett, divisional manager, New England Quarry — South, MD&B is about to start blasting in the new ramp for the next bench level, which is approximately 150 feet below the original production level at the quarry.

As explained by Bennett, MD&B partners with the quarry — evaluating a number of different blast designs and receiving input from the face loader operators in order to make adjustments and improve digging and overall cost per ton for the operation.

MD&B's Lead Blasting Supervisor at the Littleton, MA Quarry, Blake Kerrigan works closely with Dave

Schofield, the AI quarry manager. Together they determine the amount of rock that needs to be produced. This is accomplished by discussing the quarry's upcoming sales forecast and resulting crushing schedule.

Bennett explained that MD&B keeps a drill and operator busy throughout the season at the Littleton, MA Quarry. Kerrigan and Schofield work well together to plan for sequencing benches that allow the driller to be productive and the quarry to stay on schedule for their crushing needs. Bennett continued, "The day prior to the blast, we notify a third party seismic consultant that will set seismographs at nearby structures for the blast, and we also let the local fire department know that we will be shooting the next day. On shot day, Blake manages the entire blast crew and directs the loading of explosives through use of a morning Pre-Task Analysis, which addresses specific hazards that the crew may encounter on shot day. Roles are assigned and the loading process begins. Adhering to industry best practices, and a learned knowledge of the quarry, Blake has directed the safe and successful detonation of hundreds of blasts over the past five years."

Currently, the construction sector in general is experiencing a shortage of qualified workers and businesses may wonder about their own sustainability. Not so for Maine Drilling & Blasting. They actively seek, recruit and train high-potential employees that have the ability to go beyond entry-level positions. Barrett commented that people are the key to their business. He said that equipment can be purchased, but people need to be trained and cultivated with the right skills and core competencies to be successful.



The blast crew at work. Blasters Jason Guilmette and Blake Kerrigan (white hardhats) begin the process of loading explosives, while laborers Owen Gannon and Nathan Heroux (yellow hardhats) get stemming ready for confinement of holes once they are loaded.



Lead Blasting Supervisor Blake Kerrigan directs the crew during the explosive loading process.

Dan Werner, who worked his way up through the ranks to become president of MD&B tells how their company gains the advantage. Whether it's "our technical services department, our equipment services department, engineering department, product services — whatever the challenge is — the company has the "making it happen" attitude. We partner with the customer, we provide that value and in turn that gives us that preferred position with the customers."

The common goal is for employee safety, public safety and customer safety.

Werner explains today's viewpoint. "What we do is a risky business and we have to be that much better than everybody else. We are always raising our bar, raising our standard to be a leader." This focus for MD&B applies to both the safety industry and the drilling and blasting industry.

For more information visit: mdandb.com.

This story is also available at rockroadrecycle.com.



The Blaster uses a tagging unit to assign a timing sequence to each electronic detonator loaded at the Aggregate Industries — Littleton, MA Quarry.

Handling an MSHA investigation in the current regulatory environment

by Collin Warren and Travis Vance

There are many reasons why you may find yourself in the midst of an MSHA investigation. While much has been written about the common wisdom in how to best handle those investigations, things have changed in the last few years. You may be thinking: "How can an investigation be different now? We still have the same inspectors in place." While the second statement may be true — and employers may feel some comfort with the new administration and changes, i.e., the withdrawal of OSHA's "Fairfax memo" — MSHA's use of Section 110(c) of the Mine Act remains an increasing problem for those in the mining community and this problem does not seem to be going away anytime soon. Indeed, MSHA's increased use of Section 110(c) to assess civil penalties against individuals is on the rise and the circumstances in which MSHA has recently attempted individual assessments is nothing less than shocking. As lawyers litigating against MSHA, (in our opinion) this has become an all too frequent and warrants attention.

As many know, Section 110(c) generally provides that whenever a corporate operator violates a mandatory health or safety standard or knowingly violates or fails or refuses to comply with any order issued under the Act, any director, officer, or agent of such corporation who knowingly authorized, ordered, or carried out such violation, failure, or refusal shall be subject to the same civil penalties, fines, and imprisonment that may be imposed under 110(a) and 110(d) of the Mine Act. While it seems common sense may govern MSHA's thinking on who is an "agent" of the company, and what constitutes "knowingly authorizing, ordering, or carrying out," experience shows that common sense may

not be so common. It is also worth noting that, in some cases, MSHA has pursued hourly employees as "agents" of the company, as well as workers injured by their own actions. Accordingly, in almost every situation, the handling of an MSHA investigation — and especially the interviews — should be carried out with extreme vigilance — certainly if there is any reference or mention of a "special investigation" or "special investigator" extreme caution should be used. In fact, you may find yourself at the epicenter of such an investigation following an incident that results in an injury, fatality, withdrawal order, imminent danger order or flagrant violation classification. If one of these situations arises, the following are a few thoughts on what to look for (and avoid) during an inspection under the current MSHA climate.

While much has been devoted to the mechanics of preparing employees for interviews with MSHA (e.g., tell the truth, do not guess, make sure you understand the question asked before answering, etc.), and how to interact with the MSHA representative once he/she is on-site, in the short space here we will assume that our readers have implemented these basic practices. With that said, the following are a few points that employers and employees should be on the guard for to mitigate against the increased scrutiny that may occur with an investigation that may eventually lead to a 110(c) or special investigation.

Be wary of MSHA trying to make an employee an "agent" or "supervisor" when they are in fact not an "agent" or "supervisor." These questions may focus on who is:

- Responsible for required examinations;
- In a position to enforce safety rules;
- Directing the work;
- Responsible for training;
- Responsible for mine

operations; and

- Part of supervision for miners (even hourly employees).

Before answering any question that appears to focus on "agency" or "supervision," the person answering should have a clear understanding of what is being asked and why. Keep in mind that you are free to ask questions of MSHA and expect a direct and truthful answer before answering a question. Employers and employees should be wary of any question that implies "knowledge." Questions that imply or have an imbedded admission (in the form of a leading question) that the employee, if exercising reasonable care, would have obtained the knowledge of the fact in question (or the standard at issue), are common and seek unknowing admissions that may ultimately be used against the person making the statement. Be on the lookout for questions where MSHA is trying to obtain evidence that a person "authorized, ordered, or carried out" a violation. This is a fundamental element of MSHA's 110(c) claim. Therefore, MSHA will be looking for evidence to support an allegation that the person knowingly authorized, ordered or carried out the violation. Finally, since MSHA has the statutory authority to prosecute criminally, any question that is intended to establish that a person "willfully" violated the Mine Act, or that it did so with "reckless disregard" of the Mine Act's requirements, should be answered with the assistance of counsel in most instances.

Collin Warren is a partner in the firm's Houston and Dallas offices. Collin has nearly 15 years of experience representing clients in state and federal courts, as well as before the Occupational Safety and Health Administration (OSHA) Review Commission, Mine Safety and Health Administration (MSHA) Review Commission, Equal Employment Opportunity Commission

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(EEOC) and other state and federal regulatory agencies. Collin has first and second chair trial and arbitration experience and has handled numerous investigations, incidents and litigation arising out of fatalities, significant injuries, property damage, and environmental issues. He also has experience addressing workers' compensation and nonsubscriber issues, as well as employment issues. You can reach Collin at cwarren@fisherphillips.com or 713-292-0150.

Travis Vance is Of Counsel in the Fisher Phillips' Charlotte office and can be reached at tvance@fisherphillips.com or 704.778.4163. He has tried matters across several industries and various subject matters, including employment litigation, business disputes and matters prosecuted by the Mine Safety and Health Administration (MSHA) and Occupational Safety and Health Administration (OSHA).



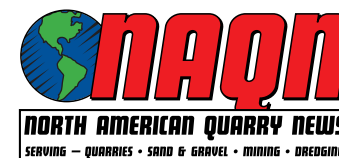
Collin Warren

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The detonation and beginning of rock movement is captured
at Aggregate Industries — Littleton, MA Quarry.



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Frederick W. Lee
Publisher, President

Bruce Button VP, General Manager
bbutton@leepub.com

Jessica Mackay Production Coordinator
ext. 137 jmackay@leepub.com

Colleen Suo Editor
ext. 145 csuo@leepub.com

Alex Huebner Social Media Coordinator
ext. 163 ahuebner@leepub.com

Ad sales: 800-218-5586

Matt Stanley Sales Manager
ext. 124 mstanley@leepub.com

Peggy Patrel Classified Ad Manager
ext. 111 classified@leepub.com

Tina Krieger
ext. 108 tkrieger@leepub.com

Joanne Hotaling
ext. 135 jhotaling@leepub.com

Brian Johnson
(Eastern/Hudson, NY/ WNE)
ext. 161 bjohanson@leepub.com

Scott Duffy
No. New England
802-484-7240 srduffy@together.net

Aimee Fanara
315-387-2804 aimee.leepub@gmail.com

Christopher Nyce
(C/N PA)
267-261-4235 cnyce@leepub.com

Christine Attle
(C/W NY)
315-317-0905 christine.leepub@gmail.com

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Lone Star Drills' LST1G+HDA offers depth control with automatic hammer

LIVINGSTON, TEXAS — The Lone Star LST1G+HDA Geotechnical Drill from Little

Beaver provides engineers and soil technicians with a precise and easy to operate drilling

solution for standard penetration tests and soil sampling in nearly any soil. Lone Star designed

the drill to address the growing demand for automatic hammers that deliver improved depth control compared to manual hammers. The LST1G+HDA comes standard with a 140-pound automatic safety hammer. The heavy duty rig

is mounted on an easily maneuverable, single axle trailer that can be towed behind a small or standard sized truck.

"Automatic hammers help to ensure accurate depth control compared to manual hammers. This has even led some

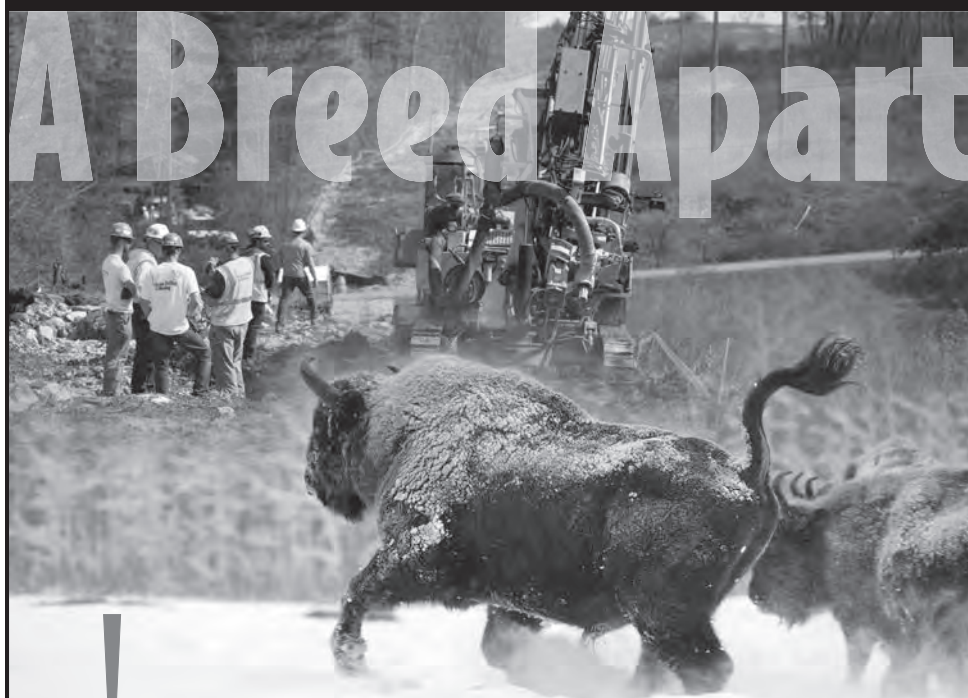
states and jurisdictions to require automatic hammers for conducting standard penetration tests," said Joe Haynes, Little Beaver president. "The LST1G+HDA eliminates user error and

LONE 8



Lone Star offers a specially designed frame for mounting the LST1G+HDA to a one ton flatbed truck.

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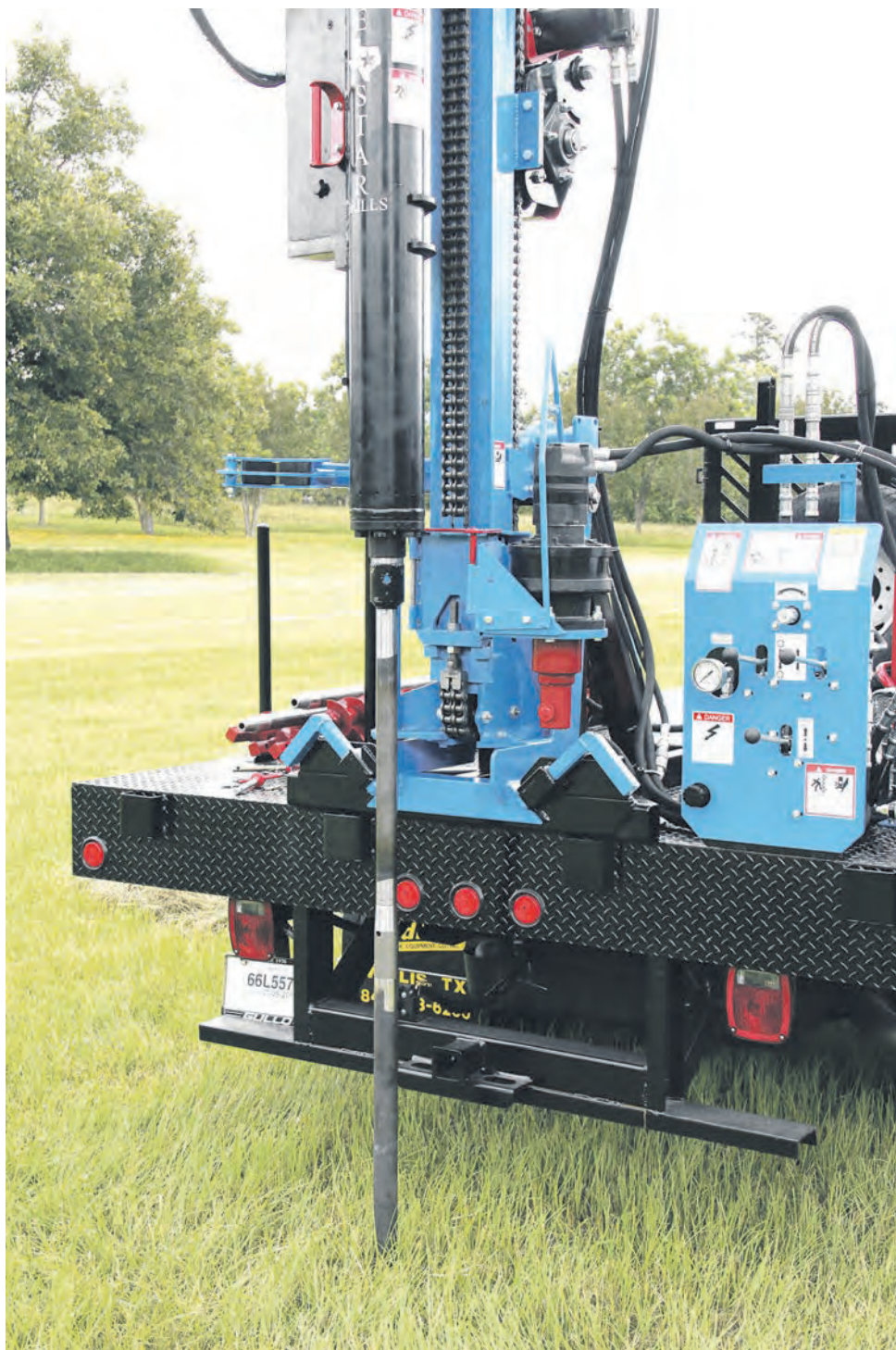
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Lone Star Drills' LST1G+HDA from Little Beaver comes standard with a 140-pound automatic safety hammer for simple and precise soil sampling in nearly any soil type.



Lone Star Drills' LST1G+HDA from Little Beaver comes standard with a 140-pound automatic safety hammer for simple and precise soil sampling in nearly any soil type.



The LST1G+HDA from Lone Star Drills is mounted on a rugged single axle trailer with a 2-inch hitch, self-leveling jacks and spare tire.

LONE from 7

makes it easy for drill operators of any experience level to take samples quickly and accurately."

The LST1G+HDA is capable of drilling 6-inch boreholes down to 100-feet. The versatile drill can also be used with Little Beaver's split spoon samplers and AWJ drilling rod for obtaining core samples or conducting geo-technical testing and environmental soil sampling.

Little Beaver offers a wealth of auger options to adapt to varying applications. Solid stem augers are available in 3 to 8-inch diameters and hollow stem augers are available in 6 and 8-inch diameters. The hollow stem augers, which can drill to 60-feet, feature a 2.75 or 3.75-inch internal diameter for collecting samples without the risk of contamination from surrounding soil. The LST1G+HDA's standard configuration allows for dry auger boring with the use of a solid or hollow stem auger. The drill is also capable of mud rotary boring using an optional mud pump, swivel and bit.

The drill's bypass flow control system allows the operator to make simple adjustments to achieve and maintain ideal push-down force when drilling in challenging conditions. Additionally, an optional anchor kit enables the LST1G+HDA to deliver push down force up to 8,500-pounds, far exceeding the weight of the trailer. The drill is also capable of an 8,500-pound lifting capacity for the hassle free removal of augers and extensions. The hinged shuttle plate provides easy access to the bore hole by allowing the operator to swing the rotary out of the way.

A 27 hp Kohler EFI gas engine powers the drill, which includes a powerful 3,000 psi hydraulic system. The drill's 12.5 gpm hydraulic power pack achieves a rotary speed of 100 rpm. The system also provides the drill's hydraulic winch with 1,500-pounds of pull for raising the automatic hammer.

Little Beaver designed

the LST1G+HDA for longevity and ease of use. The frame, rotary and swivel are constructed of high strength welded steel for enhanced durability, and all crucial maintenance and greasing points are easily accessible.

The 3,000-pound unit is mounted on a rugged yet lightweight single axle trailer equipped with

a 2-inch hitch, leveling jacks and spare tire. For improved maneuverability, Little Beaver offers a specially designed frame for mounting the unit to a one ton flatbed truck.

The LST1G+HDA can be shipped fully assembled in a 20-foot container by standard truck or overseas. The drill comes with assembly tools for fast and easy setup.

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“When a railcar is being emptied, the process needs to be fast, efficient and thorough, because extra time spent unloading, manually cleaning or sending cars back with material in them can translate into lost profits or increased costs,” explained Marty Yepsen, Business Development Manager for Railcar Products at Martin Engineering. “The higher the force to weight ratio, the more force is delivered to the material, increasing the efficiency of the vibrator.”

The IMP3 was purpose-built for unloading dry powdered bulk materials. If vibrators fail, workers



The IMP3 is designed to withstand the most punishing conditions.

Photos courtesy of Martin Engineering

may need to resort to unsafe practices to get material flowing again, such as hammering on the cars or attempting to unclog them from the bottom of the hopper.

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Set on the hopper slope of the railcar, the unit dislodges adhered and compacted material.

POWERFUL from 9

(1542 kg) of force, which has been compared to a sledgehammer blow 50 times per second. The rapid impacts generate a vibratory wave through the metal hopper of the railcar, loosening adhered material to promote fast and even flow.

The weight factor

Lifting heavy items is one of the leading causes of injury in the workplace. In 2001, (according to osha.gov), the Bureau of Labor Statistics reported that over 36 percent of injuries involving missed workdays were the result of shoulder and back injuries. Overexertion and cumulative trauma were the biggest factors in these injuries.

The IMP3 replaces a

traditional cast iron housing with an aluminum body coupled with a wedge bracket, and it features an integrated handle for easy gripping and moving. The low weight means that more of the energy is transferred from the unit to the hopper.

"Weight and ease of use are important, because transferring the vibrator can be a repetitive motion that produces fatigue and eventual injury," Yepsen said. "This lightweight unit is designed specifically for constant handling in less-than-ideal environments."

The IMP3 requires an air supply of 80 psi and 25 cubic feet per minute (0.012 MPS). When operated using a filtered, regulated and lubricated air supply, the unit requires

virtually no maintenance.

Made in the USA and competitively priced to replace heavier and less reliable competing designs that can be difficult to handle, the IMP3 has already built a faithful following among its users. "Visiting the facilities that have started using these units, operators tell me they're impressed by the ease of use and the low maintenance," Yepsen concluded. "This is one of those products that has a profound impact on logistical efficiency, workplace safety and overall cost of operation."

For more information, visit www.martin-eng.com or call 800-544-2947. Global representatives for Martin Engineering can be found at www.martin-eng.com/rep-finder.



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ASPHALT PLANTS Frank Callahan Co. Midwestern Industries, Inc. Opticom Tech Tarmac International, Inc. Tecweigh Valley Rubber, LLC	CONCRETE PLANTS Frank Callahan Co. Opticom Tech Tecweigh Valley Rubber, LLC Wear-Concepts, Inc.	DREDGES-CRANES COMPLETE Aggregate Dredge Solutions Rohr-Indeco Dredge Systems Supreme Manufacturing, Inc.	DRILLING EQUIPMENT Larmee Equipment & Supply, Inc.	FINES RECOVERY & DEWATERING Action Equipment Company Aggregate Dredge Solutions CDE Global, Inc. Elgin Separation Solutions / Tabor Machine Emerald Equipment Systems, Inc. Equip. Sales & Leasing Corp. McLanahan Corporation Midwestern Industries, Inc. PHOENIX Process Equipment Westpro Machinery Inc.
ATTACHMENTS Equip. Sales & Leasing Corp. Indeco North America	CONSULTING SERVICES Aggregate Dredge Solutions Martin Engineering Polydeck Screen Corporation Valley Rubber, LLC Wear-Concepts, Inc.	DREDGING Aggregate Dredge Solutions CDE Global, Inc. Ellicott Dredges, LLC Supreme Manufacturing, Inc. Wear-Concepts, Inc.	DTH BITS Rockmore International	FILTER PRESSES McLanahan Corporation
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BELTING AM Cast Inc.	CONVEYOR ACCESSORIES-BELTING Emerald Equipment Systems, Inc. Equip. Sales & Leasing Corp. Frank Callahan Co. RPS Engineering Valley Rubber, LLC	DUST MONITORING Elliott Machine Works	ENGINEERING-SERVICES Martin Engineering McLanahan Corporation Tecweigh Valley Rubber, LLC Wear-Concepts, Inc.	GATES Tecweigh Wear-Concepts, Inc.
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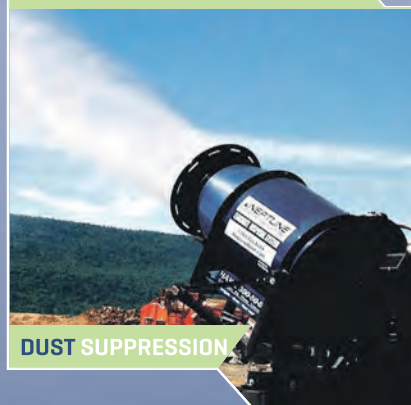
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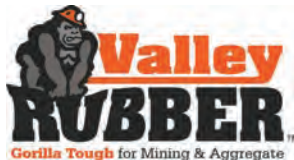
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Advanced scalable technology for the new Cat MD6310 rotary blast hole drill improves drilling efficiency and productivity

Building on the solid legacy of the MD6420C, the new Cat® MD6310 blast hole drill offers substantial technology, efficiency and productivity improvements. A key advantage of the machine, Cat electronics deliver advanced troubleshooting for efficient drill operation and scalable automation. The building blocks include drill assist, semi-autonomous and remote control operation, and machine health reporting to improve drilling accuracy, reduce fuel consumption and lower total cost of ownership.

Ideal for 39- and 49-foot bench heights, the new MD6310 is application built for efficient single pass drilling down to 44.9- or 57.4-feet, depending on mast configuration. Offering up to 30 degree angle holes for cast blasting, it is ideal for numerous mining applications. Reaching deeper hole depths than the MD6420C, the MD6310 better matches requirements when working with electric rope shovels or other loading tools that require a tall and steep muck pile. Standard on the MD6310 is a drill depth indicator, auto level/retract and auto mast, all of which contribute to efficient cycle times.

Technology improves drilling accuracy

Cat Command for drilling leverages remote and autonomous drill operation and serves as the off-board technology foundation of the drill. Scalable solutions allow customers to select the precise level of drilling automation to match operating needs. The drill assist option executes all major functions for single pass drilling. Drill assist automatically adapts and adjusts drill power to match the ground conditions, which streamlines the entire drill cycle and lengthens bit life.

Cat Terrain for drilling guides the drill for up to four times greater pattern

accuracy to ensure every hole is accurately placed and drilled to plan. The terrain logging function ensures all production is timed, mapped and recorded, and the HP GPS navigation ensures accurate hole placement, proper hole depth calculated and adjusted based on altitude, and proper hole angle through orienting the drill heading and position.

The MD6310 offers semi-autonomous drilling of single row missions and remote control operation for remote operation missions. One remote operator station allows an operator to manage drill operations and run up to three machines simultaneously.

Standard Cat Product Link™ hardware provides machine health and drill data. VisionLink® provides users secure access to customizable reports and mapping, giving users equipment data critical for better fleet management.

Efficient drilling performance

Offering superior performance in DTH and rotary drilling in soft, medium and hard rock applications, the versatile MD6310 drills up to 12.25-inch hole diameters. When equipped with the 44.9-foot mast, it delivers up to 65,000-pounds pull down and hoist capacity to drill hole depths reaching 205-feet. The 57.4-foot mast delivers up to 86,000-pounds pull down and hoist capacity for drilling hole depths down to 157.5-feet.

The flexible MD6310 features angle drilling to 30 degrees from vertical in five degree increments. With its 14 degree approach angle for easy ramp access and loading, the drill boasts a rugged Cat excavator-type undercarriage equipped with either 23.6-inch triple grousers for hard rock applications or 29.5-inch triple grousers for working in soft rock. In addition, three point oscillating suspen-

ADVANCED 19

ADVANCED from 18

sion reduces the transfer of excessive torsional forces to the main frame.

Built for a variety of extremes, the new MD6310 delivers reliable operation at elevations as high as 15,000-feet and subzero temperatures reaching minus 40 degrees F, when equipped with a cold weather package. It is powered by a Cat C32 AC-ERT™ Tier 4 Final engine that produces 1,018 hp at 1,800 rpm, or a Tier 2 equivalent engine produc-

ing 1,032 hp at 1,800 rpm. A true global machine, the new MD6310 is CE compliant, EAEU certifiable, CSA certifiable, and MDG15/MDG41 aligned.

Variable air control and dust collection

The MD6310 compressors feature variable air control that can be adjusted to 50 percent less volume to meet application requirements. Air flow modulation, load sensing hydraulics, and on-demand cooling fan improve fuel efficiency. A 1,500-square-foot per

minute at 500 psi compressor is available for DTH drilling, while rotary drilling compressor choices include units offering 2,000-square-foot per minute at 125 psi or 2,600-square-foot per minute at 110 psi.

Water injection with tank capacity of 400 gallon is standard on the MD6310 and is integral to Drill Assist for collaring the hole and dust suppression while drilling. A high volume water injection system is available with additional tank for to-



Offering superior performance in DTH and rotary drilling in soft, medium and hard rock applications, the versatile MD6310 drills up to 12.25-inch hole diameters.

Photos courtesy of Caterpillar



Joystick controls for all drilling functions and dual 10-inch color touch screen displays improve operator productivity. The new ROK 550T takes advantage of Rockmore's patented SonicFlow technology.

Photo courtesy of Rockmore

tal capacity 1,000 gallons. A 7,200 cfm dry dust collector with self-purging filters and dust chute with a clean out door is optional. Standard static dust curtains on all four machine sides contain cuttings and dust, while hydraulically actuated dust curtain lifters for front and rear are available options.

Operating comfort and safety

The new FOPS cab offers 30.1-square-foot of floor space and rubber shock mounts to absorb

mechanical drilling vibration. Joystick controls for all drilling functions and dual 10-inch color touch screen displays improve operator productivity. A roof mounted HVAC system reliably provides clean air and efficiently cools or heats the cab.

Multiple cameras provide a full view of the pipe rack carousel/top drive operation and a 360 degree view from the operator's seat to improve safety. The full-length driller window offers unobstructed view of

the drill deck, while large cab windows surround the operator to improve work area visibility for safe machine movement.

A new variable grip hydraulic break-out wrench, with additional clamping and break out force, delivers hands free pipe and bit changes from within the cab. For added protection, the machine features over 40 safety and conditional lock outs and warnings.

For more information, visit cat.com/drills.

Rockmore ROK 550T: The new five-inch class tubeless DTH hammer

Rockmore International introduces the newest addition to its T Series DTH hammer line — the ROK 550T. The Rockmore T Series DTH hammers are "tubeless" and utilize drill bits with industry standard shank connections without the imbedded plastic blow tube/foot valve.

Rockmore revolutionized the drilling industry with the launch of its first T Series DTH model, the ROK 600T, a six-inch class model that uses a tubeless QL6/QL60 bit shank.

Last year we released our ROK 60T-360T hammers that utilize the IR 360 bit shank without the blow tube/foot valve. Now, Rockmore extends the T series to the new ROK 550T, a five-inch class hammer model which uses the industry standard QL5/QL50 bit shank, but with the blow tube/foot valve removed. With high performance drilling characteristics rated for drilling 5.5-inch to 6.0-inch diameter holes, the ROK 550T is suitable for blast-hole applications in the mining and construction sectors and for deep hole drilling in the water-well and geothermal sectors.

As with all Rockmore DTH hammers, the new ROK 550T takes advantage of Rockmore's patented SonicFlow technology, which optimizes airflow by simplifying and streamlining the air paths to minimize back flow and turbulence, thus delivering more energy to the piston. Field testing of the SonicFlow design was determined to result in faster penetration rates and greater overall DTH hammer efficiency.

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The new ROK 550T takes advantage of Rockmore's patented SonicFlow technology. Photo courtesy of Rockmore

Highwall hazards present ongoing safety oversight

by Jon M. Casey

For quarry and sand and gravel plant operators who receive regular Fatalgram postings from MSHA, they are familiar with the dangers of working near or around a highwall. It is a cause for continual safety oversight. In the first quarter of 2017, there were three fatalities in the Metal-Non-Metal industry segment, two of which were due to workers being struck or buried by material. In the coal segment of the mining industry, there were five fatalities, two of which were highwall or roof fall related. In either segment of the industry, falling rock or shifting sand is a major safety concern.

Highlighting this critically important issue, MSHA Civil Engineer, Eric Gottheld, outlined highwall hazards in quarries and what to watch for in slope stability at sand and gravel mines, at the 2017 Northeast Mine Safety & Health Conference in Columbus, OH earlier this year. Gottheld’s objectives were to provide an understanding of how ground control hazards are created, how to recognize them and how to correct them. He said ground control hazards are usually created when workers are exposed to highwalls and pit walls in rock quarries or when they are exposed to banks or slopes with the potential for failure in sand and gravel pits. In either case, the exposure to these hazards can come from above or below.

Gottheld said that eliminating hazards is a primary method for reducing the number of incidents that could take place. First, he said companies should establish mining methods that maintain highwall stability. This can be done through thoughtful planning, evaluation and quarry design. Next, supervisors need to recognize the hazardous conditions through regular examinations of the worksite. Inspections should include changes in the geology and ground conditions, water seepage, the pit wall geometry, rock mass composition and potential failure modes that would result in a rock fall.

The third step to remediate a hazardous situation is through corrective measures that either prevents a failure or that prevent a worker’s exposure to the hazard. Finally, when preventing the worker’s exposure, Gottheld said some of the options would include relocating a work area, erecting barriers, installing other protective measures or regular monitoring of conditions.

Highwalls

Focusing on highwall stability, Gottheld said that highwalls are composed of rock masses consisting of blocks of intact rock that are separated by structural discontinuities. He said highwalls generally fail along these structural discontinuities. These include joints, cracks, sloping bedding planes and other anomalies. He added that the orientation and location of these fracture planes determine the type and extent of the rock failure and the path it will take.

Some of the properties of these discontinuities that play a role in how secure the highwall might be include their orientation, their spacing, how rough the surface is and how persistent the problem is. They also include the roughness, the aperture (opening) of the cracking, infilling of areas, and water seepage. He said discontinuities can occur at virtually any orientation and spacing. The way these conditions intersect one another and the highwall face, contribute to the potential for, and kind of, failure that might happen. These failures take place in various forms including circular, wedge, planar and toppling.

Gottheld noted that there are a number of ways to correct these situations. Stabilization (preventing failure) and protection (preventing exposure) are the two general methods. Stabilizing methods include reinforcement and rock removal. Reinforcement can be done with bolting, dowels, shot-in-place buttress, drainage, tie back walls and standard buttresses. Rock removal consists of re-sloping, trimming or scaling.

Meanwhile, protection measures to take to help eliminate the exposure include ditches and berms, mesh, catch fences, tunnels, rock shed, warning fences and the use of radio controlled equipment such as front end loaders and haul trucks. These can be permanent or temporary depending on the need. Rock of any size can be a problem.

Gottheld emphasized that a worker’s reaction time when they perceive a potential rock impact is very small. This time depends on a number of factors. Worker’s attention, visual acuity, decision making complexities, the time of day, worker fatigue, age and other issues all can play a part in an injury from falling rock. He said that considerable computer modeling has taken place to provide data to support ways that operators can make corrective measures that will

Samples of highwall hazards to consider. In addition to the two that are shown, water seepage from between the beds should be noted as well.

improve safety conditions.

Sand and Gravel Mining

Factors that are unique to sand and gravel mining not only include the material that is mined, but also the methods that are used to mine it. “Sand and gravel is a sediment that generally consists of an un-bonded mixture of solid particles that is much weaker than rock,” he said. “Since it is weaker than rock, you don’t need to blast it and it is either direct excavated or by dredging.”

Direct excavation is where a loader simply works along a wall or surface, scooping up material and dumping it in a haul truck, onto a conveyor or directly into a screen plant of some kind. The concern here is when an excavator is working at the base of a wall that becomes unstable when the equipment is near the face. Steep excavations that are greater than the angle of repose of the material, is a major source of failure. In sand and gravel mines, the ways that operators control how hazards are created and how these hazards can be eliminated, is critical.

Eliminating slope failure in sand and gravel plants begins with establishing mining methods that maintain stability at the work face. Planning, evaluation and design go a long way to beginning the process. Recognizing hazardous conditions is next. Regular examinations that watch for changing soil composition, weak layers, seepage, potential failure modes and maintaining a safe slope angle are ways to see a problem in the making. Taking care of the problem with corrective measures can possibly correct the problem before the work site needs to be relocated. Preventing the exposure with barriers, monitoring or other protective measures are ways to take action as well.

Gottheld offered considerably more detailed information on the science behind these recommendations. He noted that additional information and assistance with safety planning is available through the miner’s local MSHA office or by contacting MSHA’s Stan Michalek, chief of the Mine Waste and Geotechnical Engineering Division at the Pittsburgh Safety and Health Technology Center at 412-386-6974.

This story can also be found on the NAQN website at www.quarry-news.com.

Working beneath a bench that has a rock fall berm helps this equipment operator remain safe while loading shot rock.

Plans to remove loose and fallen material is part of a highwall safety program.

The angle of repose is the angle that a dry sand or gravel will form with respect to the horizontal surface when dumped into place.

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MD Drilling & Blasting receives Associated General Contractors Safety Award

MILFORD, MA — MD Drilling & Blasting was honored with an Associated General Contractors (AGC) of Massachusetts Merit Award for an Exemplary Safety Record for the year ending December 31, 2016.

The Merit Award is given to AGC of Massachusetts members who achieve an incident frequency rate 25 percent below the average rate of all firms in the country that participate in that particular division. In addition to incident rate measurement, the criteria included company management, active employee participation, safety training, work site hazard identification and control, and safety program innovation.

MD Drilling & Blasting was among 48 members honored for achieving excellence in safety. Andy Dufore, division manager — MD North, and Mike Weider, MD&B safety manager, received the award from Todd McDermott, AON Construction Services Group. “We have a very strong safety culture,” says Dufore. “Our safety success can be directly attributed to the attitude that our people bring to the field each and every day.” Weider explains, “Our employee/owners under-

stand that our first priority is safety; that we are all share personal accountability to operate “above the line,” and never walk by a situation that is unsafe.”

MD Drilling & Blasting, a subsidiary of Maine Drilling & Blasting, is recognized as a leader in the industry and offers drilling and blasting services to the construction and quarry markets, along with a variety of specialty services throughout the Northeastern United States, including foundation services, hoe ramming, engineering, public relations, pre-blast surveys and packaged and bulk distribution. In addition to the corporate office in Gardiner, Maine, Maine Drilling & Blasting has offices in New Hampshire, Vermont, New York, Massachusetts, Connecticut and Pennsylvania.

(L-R) Mike Weider, MD&B safety manager, Todd McDermott, AON Construction Services Group, (Awards Event sponsor) and Andy Dufore, MD North division manager.

Photo courtesy of Maine Drilling & Blasting



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Prairie Dawg Practical by Tim Holmberg, DEMI Equipment

Hey Prairie Dawg, "How about some CONVEYOR need to know basics"

Believe it or not conveyors are the underrated work horses of the aggregate and mining industry. Conveyors, often taken for granted and typically the most underappreciated item on the property are often thought or looked to be so similar and without really having much for an impressive display of earth shaking action like a rock crusher or screening plant, yet these simplistic pieces of equipment are so very important to the bottom line profits they are literally nonreplicable works of art designed very specifically per their unique application or function.

As most conveyors are first designed and commissioned they are rigorously engineered for their application in both performance and structural integrity and fitted with calculated components to satisfy the specific environmental conditions in which they will be performing often for four decades and longer. It's when a conveyor is typically decommissioned and then repurposed within an operation that it starts to become problematic. Whether being underpowered or maybe under specked components that keep the continuous belt in motion it begins to start failing prematurely do to the severity of application.

Lots of times companies will speed up a conveyor belt that maybe wasn't wide enough for the new job causing premature life cycle failure in bearings and gear reducer components. Many times, I hear the production crews saying that their conveyors are always causing them lots of busy work, always being in need some sort of daily attention. I guess these quiet giants and all they are capable of doing deserve to be graciously taken care of. Here are some quick points to keep in mind for properly maintaining a Basic Conveyor:

- Don't be afraid to dedicate a specific person or two to walk the conveyors each day in an operation looking for worn troughing idlers and returns, damaged pulleys and frayed or punctured belting often easily spotted wherever bulk material is seen spilling to the ground below.

- Weekly checks on all pulley bearings while providing proper grease intervals and amounts per the bearing specifications. It is better to under-grease a bearing than to over-grease it and blow out their delicate seals now exposing the fine finished machined internal surfaces to dirt, debris, and moisture, three nuisances always present and waiting to enter and destroy.

- Monthly checkups on all hoppers, wear liners, skirt rubber and all 3-4 types of belt cleaners often utilized.

Every six months perform gear reducer maintenance, checking for leaking seals, worn sheaves and drive belts, recommended oil change, guarding and all structural components such as main frame, support stands, undercarriages and all their hydraulic lift components and associated structural items.

Keeping a dedicated set of eyes on these few listed items will definitely keep the investment of operating conveyors at your operation most profitable. Anytime you can schedule repairs versus having them unceasingly show up throughout the day, you will see the added value and safety compliance too.

Here are some items to consider when possibly repurposing a conveyor within an existing operation:

- Are the length and belt width equitable for moving the amount of flow desired to the location necessary without major horsepower or length modifications that may be costlier than starting over with an entirely different series or style of conveyor?

For instance, overland style conveyors are much more favorably modified for length purposes, especially when involved with distances beyond 150 feet.

Overland frames are of a more simplistically designed framework than that of a lattice frame-constructed conveyor typically engineered and built for extensive spanning purposes. A quick decision easily determined by the terrain on

which the repurposed conveyor will be positioned.

Often overland conveyors being modularly built, allow for easier modifications to the conveyor's drive package to change horsepower requirements when built as a separate entity of the intermediate sections or core body of the system. This modular build style framework also allows the conveyor to follow the natural contours of the location not requiring much for site preparation other than some adjustable support leg adjustments to maintain a consistent vertical levelness throughout.

Belt width differences can often be compensated if needed by adjusting belt speed but always remember

the faster a belt runs the quicker it wears out its components — very much like an automobile going up and down the road. It is always better to run a belt at its optimal speed as this provides a maximized life cycle on components and is most efficient to operate from an energy usage perspective. Properly designed, the horsepower to torque to speed ratio keeps the system running at its easiest frictional condition.

Conveyors are so necessary to an operation and it is so critical to respect them for the amazing amount of work these miles of moving components and rigid frameworks provide. I for one am a huge fan of all they have to offer and the many different variations or configurations made available by both major manufacturers as well as small fab shops today. Conveyors are all around us in most every industry but it's in the aggregate and mining industry where they are pushed to the production and design limits and where they are exposed to the harshest of conditions. Stay tuned in for more conveyor topics and details associated to come.

Questions? Tim Holmberg prairiedawg@pdpractical.com

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Inspectifly: Staying ahead of the drone curve

by Larry Bernstein

Inspectifly, located in Wellsville, NY, specializes in industrial drone applications. They provide industrial drone services including aerial filming, photography, industrial inspection, thermal imaging, 3D mapping, stockpile measurement, and construction monitoring. Some may view this as dry technical work but not Inspectifly owner Andy Bastian who has found his perfect job.

“When a new drone is coming, for me, it’s like Christmas,” says Bastian. For Bastian who says every day is an experience to learn about things you can do with a drone, interest in aviation began at an early age. The entire Bastian family is engaged in aviation as Andy’s father and older brother are pilots, and two of his uncles were Navy pilots. As a child, Bastian’s family would pile into the car every summer and go to different air shows near and far. After high school, Bastian went into the Air Force and became a licensed aircraft mechanic. After leaving the military, Bastian worked on corporate jet aircraft and owned a few different businesses related to aviation.

While Bastian conceived of Inspectifly a few years ago, he did not start the business till August of 2016. He started just after the government passed regulations making it legal to operate drones without an FAA waiver. The ability to put a camera on a re-

mote control aircraft has always intrigued Bastian and his interest in drone technology is vast. Bastian says, “When you’re in an aircraft and flying, you get different perspective from what you see on the ground. Drones allow you to get that perspective anywhere in the world.”

Inspectifly’s customers are primarily located in the Midwest, Northeast, and Mid-Atlantic states. Inspectifly prides itself on being a professional service company. They are fully licensed, get waivers when they fly, and are knowledgeable about FAA regulations. Inspectifly manages this aspect, so its clients need not worry. The reasoning behind this is simple, “We want customers for life and we provide the best capabilities on the planet,” says Bastian. Bastian adds companies choose Inspectifly because they offer everything a company might need in a drone company. In addition, besides being reliable, Inspectifly guarantees their data, “We get what they need and if it’s not right, we’ll redo it.”

Because drone technology is so new, it’s constantly changing. Bastian notes that drones change yearly as they double in efficiency, have more robust flight systems, and improved flight controllers. Inspectifly is determined to keep up as Bastian scours the internet for news of drones and technology every day. However, he says, “Each drone has its own advantage. New ones don’t replace whole



Depending on the size of the quarry, Inspectifly can do most mapping jobs within a day, and the data is more accurate than ground measurements.

Photos courtesy of Inspectifly



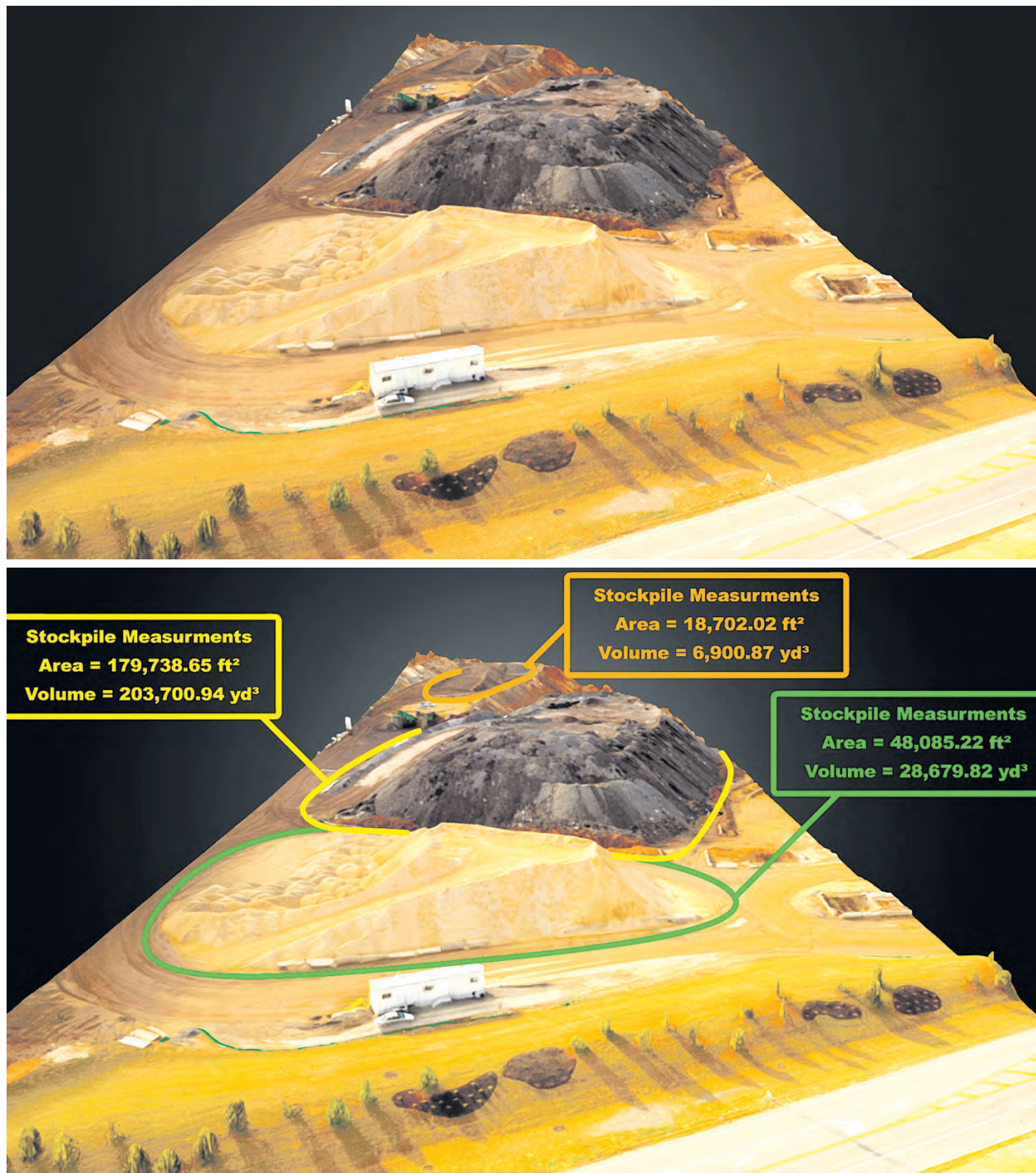
Example of an orthomosaic map offered by Inspectifly.

fleets but add to the capability.” Inspectifly strives to keep up with technology as new aircraft and camera systems come out to insure they have the ability to do anything that the latest gadgets allow.

Inspectifly uses DJI products. Bastian feels they have the most stable equipment and best image sensors. “The options that come with their platforms allows us to do everything we need to do and their equipment is very reliable,” says Bastian. When Inspectifly is performing close inspection work, they use a Flyability, which is an Elios model. This model uses DJI components for their flight systems, which Inspectifly uses for its other drone systems, and therefore, the operators can quickly come up to speed.

When sending a drone over a quarry, Inspectifly uses a special set of software and a grid map, which takes consecutive images of the grid, so all images overlap each other.

Inspectifly from 25



Before and after of 3-D mapping with stockpile measurements calculated for the owner/operator.

High resolution cameras are used as they give better accuracy of finished results. It can be brought into auto cad or they run preliminary measurements. This can help mine companies know how much material is in volumes of their piles in a fraction of the time it would take them to do it manually.

One new drone used by Inspetifly is the DJI Matrice 210 RTK. It can carry dual cameras where the previous mode had one. This allows Inspetifly to perform a visual and thermal inspection on the same flight. The drone can also carry cameras on top — the first of its kind. This helps Inspetifly to do underside bridge inspections and has collision avoidance. Bastian says the drone has a dual operator with one flying the craft and the other one operating the camera.

Some elements of the technology that Bastian finds quarry owners value is volume metrics. Inspetifly performs volume metrics and 3D stockpile measurements. Depending on the size of the quarry, In-

spectifly can do most mapping jobs (size dependent) within a day, and the data is more accurate than ground measurements. It takes Inspetifly's software two days to process the data and the typical turnaround time till they transfer the data is four to five days after the site visit. "Companies can do it more often because it takes less time, and it's less expensive. The more often they take stock of what they have, the more reliable data is and industries can use the data to make business decisions," says Bastian

While the technology makes tracking product at the mines much easier, challenges still exist. The greatest challenge, according to Bastian, is quarries aren't necessarily drone friendly. Often, product is leaned up against a wall. Since the slope of the wall is unknown, it's difficult for the software to accurately measure. However, Bastian says, "There are ways to get around it that we've figured out, and the software is good." Another challenge is some people have yet to accept tech and are reluctant to change. Bastian believes that as people become more educated about the benefits of drones — they provide as good or better data at a fraction of the cost — they will come around.

As Inspetifly and Bastian strive to stay ahead of the curve on drone technology in order to provide their customers with the best technology, they are always looking forward. These days, Bastian is looking at LIDAR which will allow drones to see through vegetation. According to Bastian, LIDAR will help quarry owners more than anyone as the data will be even closer to exact. At this point, the cost of the technology for drones is excessive and it outweighs the benefits. You can be sure when the technology comes on board, Bastian and Inspetifly will be purchasing the drone that has LIDAR Technology. That day will be another Christmas for Bastian.

This story can also be found on the NAQN website at www.quarrynews.com.



Bastian believes that as people become more educated about the benefits of drones, they will come around



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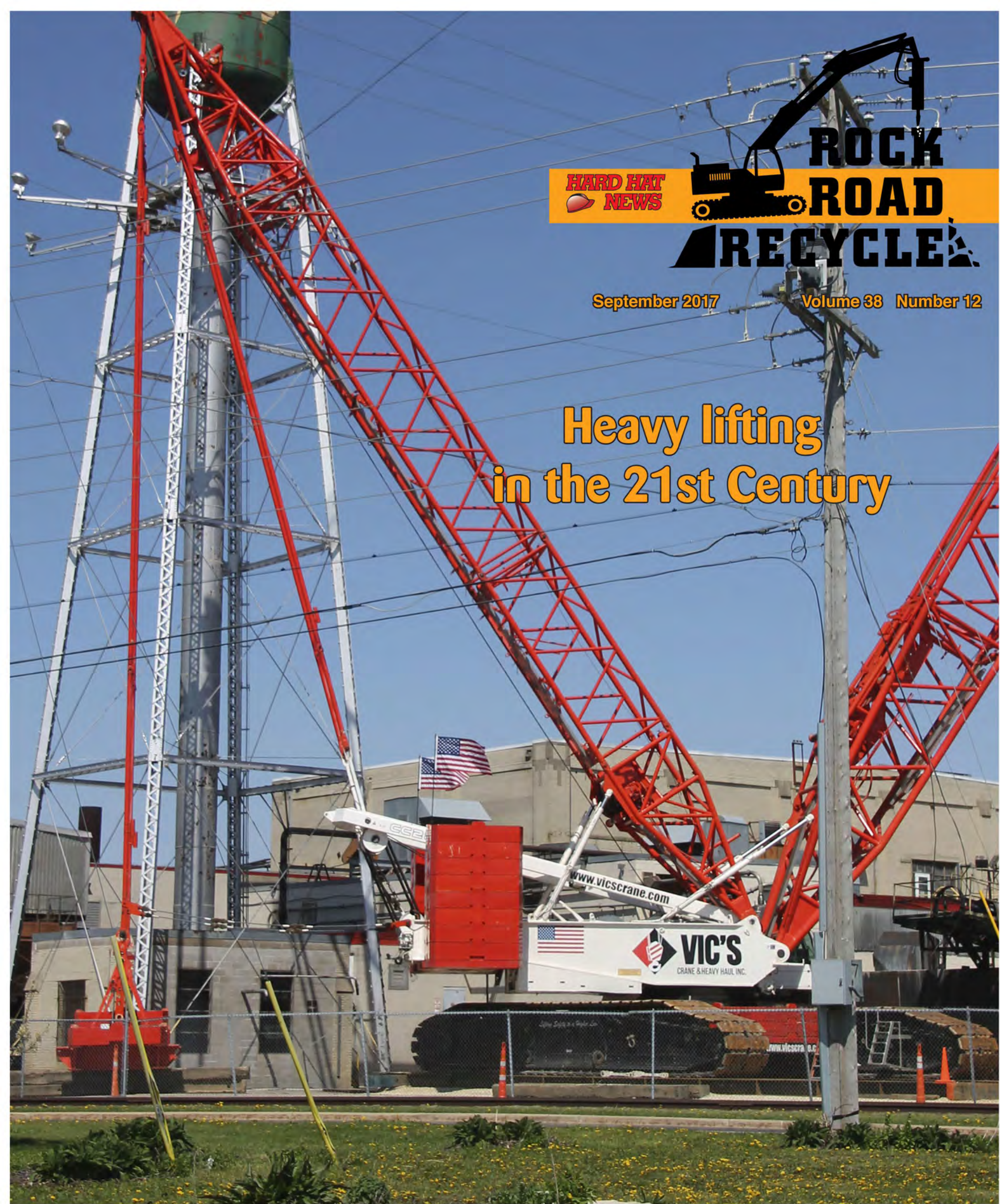
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Heavy lifting in the 21st Century





Frederick W. Lee
Publisher, President

Bruce Button VP, General Manager
bbutton@leepub.com

Jessica Mackay Production Coordinator
ext. 137 jmackay@leepub.com

Colleen Suo Editor
ext. 145 csuo@leepub.com

Alex Huebner Social Media Coordinator
ext. 163 ahuebner@leepub.com

Ad sales: 800-218-5586

Matt Stanley Sales Manager
ext. 114 wjenning@leepub.com

Peggy Patrel Classified Ad Manager
ext. 111 classified@leepub.com

Tina Krieger
ext. 108 tkrieger@leepub.com

Joanne Hotaling
ext. 135 jhotaling@leepub.com

Brian Johnson
ext. 161 bjohnson@leepub.com

Scott Duffy
802-484-7240 sduffy@together.net

Wendell Jennings
ext. 114 wjenning@leepub.com

Christopher Nyce
267-261-4235 cnyce@leepub.com

Christine Attle
315-317-0905 christine.leepub@gmail.com

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Heavy lifting in the 21st Century

by Bill and Mary Weaver



The rear cab section of the Grove GMK 6220 truck crane, from which the crane is operated. The crane is more powerful than its size may appear, rated at 220 tons.

Photo by Bill Weaver

When Seneca Foods needed to remove an old boiler through the roof and replace it with a new one weighing 100,000-pounds at its Rochester, MN plant, the logistics and crane work were subcontracted to Vic's Crane & Heavy Haul of Rosemount, MN. Vic's chose its largest crane for the job, their Terex/Demag CC-2800 lattice boom crawler crane, which is rated at 660 tons. This machine is also the largest crane based in Minnesota, as well as in the Upper Midwest.

For the initial "pick," and its replacement with the new boiler, the lattice boom crane would need to reach over the outside wall, far inside the facility, at a 280-foot radius from the crane to the center of the boiler, so the 100,000-pound weight of the new boiler would be far from the crane's center of gravity. In preparation for this lift, Vic's trucked close to a million pounds of counterweights to the site from their home base near the Twin Cities: 398,000-pounds of superstructure counterweights were placed on the machine; 120,000-pounds of car body counterweights were hung between the tracks; and an additional 440,000-pounds were stacked on the Superlift tray on the back.

"We tend to get the toughest crane jobs," commented Mark Brouwer, Heavy Lift superintendent for Vic's. Vic's gives rental customers a choice of 36 different crane models, with multiples of 17 of them, but Brouwer says the Terex/Demag CC-2800 is "in a class by itself!" The tip of its main boom reaches to 315-feet, and an extension was added for the long reach into the building. With maximum extensions, the boom can have a tip height of 550-feet.

"The hook on this crane alone weighs 26,000-pounds, and uses the load lock weight just to keep the cables tight," he continued. The tracks weigh 106,000-pounds and the superstructure house



Vic's powerful Terex/Demag CC-2800 successfully completes one of the heaviest lifts in the company's 65 year history.

Photos courtesy of Vic's

weighs 105,000-pounds, so this is a large crane to assemble. The crane was hauled to the Seneca Foods site in sections, and took a week to assemble in a configuration suitable to the site and the job to be done. The assembly was assisted by the lifting power of one of Vic's Grove hydraulic truck cranes, a GMK 6220, rated at 220 tons.

Fifty-five semi loads were required to haul the Terex/Demag CC2800's crane sections, the counterweights, and other related equipment to the site. The heavy lifts, the roof replacement, and other work accomplished with the huge crane at Seneca Foods took two weeks. For the job, Vic's supplied an experienced crew, including an operator; an "oiler" (who was only onsite for lifts and was in charge of lift safety, also served as a backup operator); certified riggers; an ironworker; and two operators for the Grove GMK 6220 truck crane, which assembled the Terex/Demag, and added and removed its counterweights as needed.

Between lifts, Vic's supplied mechanics from its home base in Rosemount, MN to take care of manufacturer specified maintenance. Vic's also performed the heavy haul of the 100,000-pound boiler to the site on a specialty lowboy trailer. Because of careful preplanning by Vic's experienced staff, the job went smoothly.

During the same time period, Vic's also supplied an additional 550 Ton capacity Grove GMK 7550 hydraulic all terrain crane, to dismantle two tower cranes that had been working in town on a large addition to the Mayo Clinic owned St. Mary's Hospital. These cranes were to be moved to other jobs, but would later return to finish work on the hospital addition.

The single heaviest lift ever accomplished by Vic's in its 65 years in business took place in 2016 in East



One section of the Terex/Demag CC-2800's counterweights (120,000-pounds of car body counterweights). In total, this crane held nearly a million pounds of counterweights for its work at Seneca Foods.

Dubuque, IL. This lift was accomplished in two parts, making use of the same mammoth Terex/Demag CC-2800 used at Seneca Foods, a second Terex/Demag, and Vic's four point gantry system. First the four point gantry lifted a 702,450-pound ammonia converter vessel from its railroad transport onto Vic's long Goldhofer trailer at the edge of company property.

The Goldhofer, resembling a long, resilient caterpillar with its 20 axles each supported by eight wheels, spread out the weight of the heavy load so it could be safely hauled to its destination at the fertilizer plant. Considerable logistical preplanning needed to be done to ensure its safe ride over culverts and bridges. Vic's engineers are skilled at such preplanning.

The ammonia converter vessel had made a long journey to the East Dubuque fertilizer plant. Manufactured in Italy, the heavy vessel was shipped to the US, then traveled by rail to the property of CVR Partners LP — Nitrogen Fertilizer LLS, the purchaser.

When the Goldhofer trailer with its prize load reached the installation point, two towering Terex/Demags, the CC-2800 and a slightly smaller CC-2500 (rated at 550 tons), worked in tandem with one crane at each end, lifting the vessel from its horizontal position on the trailer. With the two cranes still working together in close coordination, operators began inching the vessel toward a vertical position. The 2800 lifted the vessel from the top, and the 2500 lifted and supported the vessel from the bottom.

When the 702,450-pound vessel was finally vertical, the larger Terex/Demag CC-2800 took over the job. Working alone, the huge crane slowly lowered the vessel into its base.

A tremendous lift had been completed safely, (and coordinated with other projects, several of which involved lifts of 100,000- to 152,000-pounds), due to Vic's meticulous preplanning and well honed teamwork. Eighty-five semis had hauled the two cranes and their equipment, plus the gantry system to the company site, where Vic's had assembled all in two weeks' time.

Although they are not used as frequently as some of the other cranes in Vic's fleet, these two Terex/Demags, along with lighter duty lattice boom crawler cranes like Vic's multiple Manitowoc 2250's, play an essential part in their business. "The lattice boom crawler cranes do specific, specialty work," explained Brouwer. They are needed for jobs that call for long reach, heavy lifts. For refinery work, in power plants, and in the very busy iron mines in the Iron Range area in northern Minnesota, these cranes are indispensable.

Vic's also used a lattice boom crawler crane, one of its Manitowoc 2250's which can lift 300 tons, for a long reach into a Wisconsin paper plant to remove an aging paper press and replace it with a new one.

When new power producing windmills, which dot the landscape of the windswept Upper Midwest, need to be erected, or existing windmills need repairs, Vic's hauls one of its lattice boom crawler cranes to the site. These tall cranes, including the Manitowoc 2250's with a 350-foot main boom plus an additional 120-foot luffing jib, can easily reach the blades and motors of the windmills and lower them to the ground for repairs.

For jobs that don't require the heavy lifting of the Terex/Demags, or the necessity to reconfigure the crane



Vic's Manitowoc 2250 lifting an aging paper press out of a Wisconsin paper plant.

Photo courtesy of Vic's

to the specific job and jobsite, the Manitowoc lattice boom crawlers can do similar work and are much simpler to haul and assemble. The Manitowoc 2250, for example, can be moved using “only” 20 semis. At the site, it can be self-erected in 10 hours. At the end of the job, this crane folds itself up again in about 10 hours, ready for trucking.

Vic's Crane & Heavy Haul is a one stop shop for crane rental and heavy haul vehicles for a wide variety of industrial needs in the Upper Midwest. Vic's provides in-house fabrication of special equipment when needed, detailed engineering services, individual project preplanning, haul-route planning, 3D models of proposed lifts, and also provides specialized software. Vic's also designs and then later removes temporary access roads and bridge ramps for its heavy equipment, as well as providing barge roll-on/roll-off services.

For more information regarding Vic's, visit <http://vicsco.com>.



Vic's massive Terex/Demag CC-2800 (L) with the smaller but also powerful Grove GMK 6220 hydraulic truck crane at Seneca Foods backed by Rochester's landmark Ear of Corn Water Tower.



Two of Vic's most powerful cranes working together at the E. Dubuque, IL fertilizer plant.



The Manitowoc 2250, for example, can be moved using “only” 20 semis. At the site, it can be self-erected in 10 hours.

*Left and below:
One of Vic's Manitowoc 2250's with a 120-foot luffing jib attached to its 250-foot main boom is in position to remove power-producing windmill's blades for repair.*

The crane operator deftly lowers the blade and attached parts to the ground for the waiting crews

Photo courtesy of Vic's



Photo courtesy of Vic's

How to pick a low-level scissor lift that fits your project

by Justin Kissinger, marketing manager for Hy-Brid Lifts®

Using an oversized lift on indoor worksites is sometimes like attacking a mosquito with a baseball bat. It's impractical, unsafe and might do more damage than good. Low-level scissor lifts are great tools for indoor projects, such as electrical installation or drywall hanging. They are easy to maneuver, have intuitive controls, and most importantly, get you to the right working heights without lugging tools and building materials up shaky ladders and scaffolds.



Low-level scissor lifts are ideal for indoor projects, such as electrical installation or drywall hanging, because they are easy to maneuver, have intuitive controls, and most importantly, get you to the right working heights.

Photos courtesy of Hy-Brid Lifts

There are hundreds of lifts on the market and picking the right lift optimizes productivity and operator safety on the jobsite, as well as adds a low-maintenance machine to any tool fleet. When faced with multiple catalogs of varying models and specs, customers should consider four features before making a purchase — working height, platform size, worksite impact and lifting capacity.

Heightened awareness

Less is more when it comes to interior working heights. Contractors might think they need a lift with working heights taller than 25-feet, when actually they may be able to reach all projects with one that reaches a 20-foot working height. In fact, roughly 70 percent of lift operators say their jobs required working heights lower than 25-feet.

Those smaller lifts bring added benefits to many jobsites. Low-level scissor lifts have step-in heights as low as 20-inches, making it easy for operators to load tools and materials onto the platform. Low step-in heights eliminate the fatigue caused by climbing multiple ladder rungs; reduce the chance of a serious fall; and

minimize repetitive strains that can create workers' compensation issues. Some manufacturers also incorporate a full swing gate, which makes platform loading easy and safe because the operator doesn't have to duck under chains or railings.

Using an oversized scissor lift for interior work, such as electrical installation, can even endanger the operator. Crush hazards are a constant presence when operators use an oversized lift indoors because the platform height exceeds the ceiling height. For instance, if an installer is using a 20-foot lift inside a 20-foot-tall room, he or she might get distracted while looking down over the railing as the platform is nearing the ceiling, creating a potential crush hazard. A low-level lift, on the other hand, has roughly a 15-foot-tall platform height, which allows the installer to achieve a 20-foot reach with virtually no crushing hazard.

Stowed height is also important for operators to consider when selecting a low-level lift. If a lift is less than 6-feet tall with the platform fully lowered, operators can easily push or drive the lift under overhead fixtures, such as support beams and doorframes.

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The short and long of low-level lifts

Having a lift that offers plenty of working space, yet still fits through cramped worksites, is just as important as reaching the correct working height. A low-level lift should be less than 3-feet wide and 6-feet long so operators can easily transport it or maneuver it through narrow pathways. For example, some drive-around, low-level lifts are as narrow as 2.5-feet, which is wide enough for an operator and any tools he or she might need, yet still small enough to fit through doorways and take up minimal space in narrow hallways. And a lift that is less than 6-feet long will easily fit inside most elevators.

Some lifts have platform extensions that give operators extra working space for an additional person or building materials. The extension also allows operators to work over obstacles that might prevent the lift from moving forward. For example, an operator can slide out the extension to install a lighting fixture over a stairway railing.

If a lift has an extension, customers should inspect how it is attached to the platform to avoid extra maintenance. Some extensions are attached to the platform's floor and use wheels that can collect debris and become jammed. This creates downtime to clear the obstruction. Some manufacturers attach extensions to the platform midrails using c-clamps, which virtually eliminate the chance of debris jamming an extended platform.

Minimizing damage

Low-level lifts should have minimal or no impact on the worksite. For instance, dual front wheels, counter-rotating wheels and self-contained hydraulic systems prevent a chance of hydraulic oil leaking and damaging costly carpeted, hardwood or tiled floors.

Low-level scissor lifts have some of the best weight distribution in the industry. Their wheels spread the lift's weight throughout the unit to reduce pressure on



A platform extension allows the operator to work over nearby obstacles, such as stairwells, and should be connected to the lift's railings to avoid jamming from debris.

sensitive surfaces, including tile and stone floors. For example, a 1,200-pound lift with dual front wheels might have wheel loads as low as 62.7 psi, which enables operators to maneuver the lift over tile, laminate,

raised floors and mezzanines with minimal risk of damage. The weight distribution also means operators can get onto poured concrete several days sooner than with heavier lifts.

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iCraneTrax provides telematics interface for Manitowoc CraneSTAR customers

FERNANDINA BEACH, FL — A1A Software LLC, developer of iCraneTrax, and Manitowoc CraneSTAR announce that Manitowoc's crane asset management system will now interface through iCraneTrax. "iCraneTrax provides an improved user experience. It's faster, better organized, and designed for easy navigation," said John Alexander, director, GMK Service, and Mobile Training & Telematics for Manitowoc.

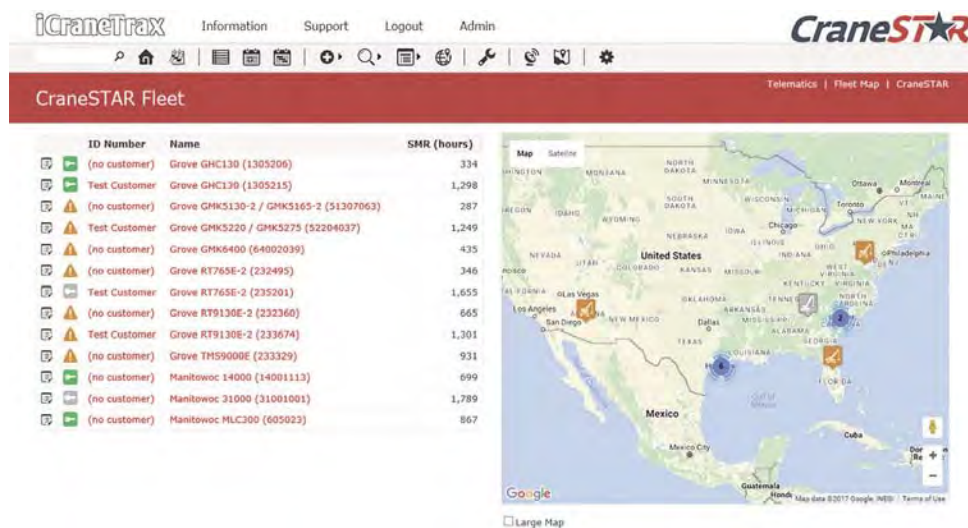
"CraneSTAR's website was first developed in 2010. Rather than updating our legacy sites, we selected iCraneTrax, an externally supported application that was developed specifically for crane fleet management," said Alexander. iCraneTrax replaces Manitowoc's legacy website and the CraneSTAR Express website.

"We are pleased to be able to offer Grove and Manitowoc crane owners with efficient tools for monitoring and

managing their crane fleets," said Tawnia Weiss, president of A1A Software. Among the enhanced features CraneSTAR customers can use are automatic report generation and delivery, and maintenance logs and alerts. "Automating alerts based on actual equipment usage is an efficient way for fleet managers to be proactive with upcoming maintenance items or for designated personnel to receive real time notification enabling faster corrective action," said Weiss.

iCraneTrax provides the structure for as much as 75 percent more data points being captured by CraneSTAR to be accessible to fleet managers. One of those new data points is the ability to view specific engine performance data via the J1939 connection on properly configured cranes.

For more information visit 3DLiftPlan.com and iCraneTrax.com. ■



A screenshot of CraneSTAR interfaced through iCraneTrax shows an example of specific locations and status of cranes. Green keys indicate the crane is running, orange alerts show cranes that are in a fault state or have lost communication, and blue numbers highlight how many total cranes are in that location.

Photo courtesy of iCrane

Counter-rotating wheels also minimize the risk of damaging sensitive floors, such as carpet and linoleum. Non-rotating wheels twist and bunch up the floor when the operator turns the lift, causing tears or deformations. Counter-rotating wheels allow one side of the wheel to move forward, while the other moves back, which prevents bunching or twisting.

Hydraulically driven lifts have the highest potential for hydraulic oil leaks since they use the fluid to drive, lift and steer the lift. Hydraulically driven lifts also have multiple connection points between the hydraulic pump and systems, which increases the risk of a leak occurring. If a leak occurs, the oil can stain floors and create slippery surfaces. And hydraulic units require considerable maintenance. For instance, they consume hydraulic oil faster and require more frequent filter changes than electric-driven units.

To minimize the risk of harmful leaks, some manufacturers make electric-driven lifts with hydraulic systems that have only two connection points. These lifts use hydraulic systems that are solely dedicated to elevating the platform instead of driving, lifting and steering the lifts, which reduce the chance of leaks and generally have greater motor efficiency. And since connection points are a major source of hydraulic leaks, having only two connection points minimizes the chance of a leak occurring in multiple spots.

Locked in and charged up

When faced with a project that requires working through long hallways and working hours, consider lifts that feature castor locks and efficient, built-in charging systems. Some manufacturers include caster locks that limit the wheels' turning radius. These locks, when engaged, make low-level lifts ideal for working through long hallways because they allow operators to drive easily in a straight path while permitting

minor steering adjustments.

Customers also should consider features that protect the environment if they are purchasing low-level lifts. For example, some manufacturers build lifts that have electrical drive motors and steering systems. These systems draw fewer amps and require less overall power than hydraulically driven engines, which results in long operational hours — sometimes as long as 16 hours — and fewer recharges. Some manufacturers also include an on-board battery charger that self-monitors the electrical current and stops it once the battery is fully charged. This reduces energy consumption and prevents the battery from overcharging, which can shorten its life. Some chargers also maintain batteries independently from each other instead of pushing the electrical current from one battery to the next. Combined with a self-monitoring system, they help ensure the equipment owner gets the most life from their battery.

It lifts me; it lifts a lot

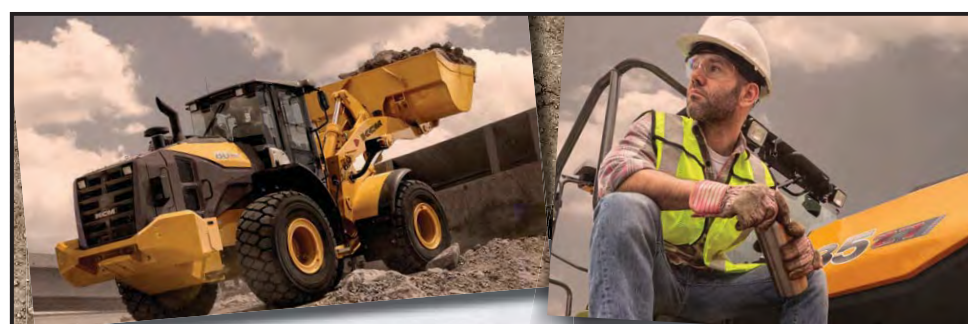
Having a low-level scissor lift that can elevate workers and building materials while maintaining its stability is key to maximizing productivity. For instance, if an operator is hanging drywall, the lift needs to accommodate the worker, screws, tools and a couple of sheets of drywall. Plus, each sheet can weigh between 52- to 77-pounds depending on the size and material. This weight adds up quickly and can be a deciding factor when choosing a lift.

Low-level lifts excel with their large lifting capacity. For example, some 10-foot lifts have 750-pound lifting capacities, which is generally enough to support two operators or a single operator and any building materials he or she may need on the jobsite. To minimize a scissor lift swaying under heavy loads, some manufacturers enhance platform stability by using a robust scissor stack and oversized pins.

Picking a lift

Knowing what features fit your business' or project's needs puts you ahead of the curve when it comes to selecting a low-level lift. Each feature should increase your productivity and minimize costly downtime on a wide

range of applications. From hanging slabs of sheetrock to twisting in the final light bulb, the best low-level lift safeguards the operator, the project, and the production schedule from beginning to end. ■



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The colorful murals were the brainchild of Chambersburg Area Senior High School teacher Holly Strayer. Philadelphia-based mosaic-mural artist Isaiah Zagar's award-winning mosaics can be found throughout Philadelphia and around the world.

Photos courtesy of JLG

MCCONNELLSBURG, PA — As the vice president of sales for North America at JLG Industries, an Oshkosh Corporation (NYSE:OSK) company, Bob Nelson has helped many rental companies specify the right types of scissor lifts for a variety of applications. But this was a first for him. Working with JLG customer Best Line, Nelson helped arrange the delivery of two JLG scissor lifts donated by Best Line and JLG to downtown Chambersburg, PA, for the purpose of installing large, tiled murals on the sides of two buildings.

The colorful murals were the brainchild of Chambersburg Area Senior High School teacher Holly Strayer. During visits to Philadelphia, Strayer admired the work of renowned Philadelphia-based mosaic-mural artist Isaiah Zagar. Zagar's award-winning mosaics can be found on more than 200 public walls throughout Philadelphia and around the world.

"I was immediately attracted to his work, which I thought was both inspiring and mood-changing," said Strayer. "It got me to thinking about creating murals for downtown Chambersburg. The city could use a little vitality and beauty, and what a great way to introduce art into the community and connect area students to the powerful impact art can have in their lives."

On a whim, Strayer contacted Zagar through his website and was both shocked and delighted when he responded to her inquiry with a personal phone call that evening. He explained to her what he needed in the way of fees and materials to make the project a reality, adding fuel to the fire that was already burning in Strayer.

Art teacher spearheads mural project

Armed with that information, Strayer shared her idea with the president of the Greater Chambersburg Chamber of Commerce, who, along with Downtown Chambersburg Inc., encouraged her to move forward. With the help of a core committee of six and social media, Strayer was well on her way. She turned to Facebook to recruit materials and volunteers and set up a GoFundMe account to cover expenses.

"Our goal was to raise \$20,000 to cover fees, prepare the walls, rent equipment, and purchase supplies," she said. "Much to everyone's surprise, we raised \$24,000, and we did it in just one month. Everyone was so generous, including individuals, local businesses, JLG Industries, the Rotary Club, and Patriot Federal Credit union, which matched GoFundMe donations dollar for dollar up to \$5,000.

"As for volunteers, we actually had to turn people away, because we had more than we needed. I hoped to engage as many people from the community as possible, which is exactly what we did."

Strayer estimates a group of between 30 and 50 people worked to create two murals, one 68 feet wide by 15 feet high on the Main Street Deli building and the other 37 feet wide by 15 feet high on the Foundry building. But before volunteers could begin their work, Zagar used a brush and black paint to create and outline the original mural designs.

"He arrived here without any preconceived idea of what the murals would look like," said Strayer. "Watching something emerge from the walls as he

Painted was truly magical."

JLG lifts were critical to completion of murals

The job of the volunteers was to paste mirrored tiles within the outlines Zagar created and then apply grout to complete the process. That's where the JLG scissor lifts came in.

"We could have used ladders and scaffolding," said Strayer. "But I didn't feel comfortable on either, and I didn't want others to feel uncomfortable. So, I used Facebook to put out a call for a piece of equipment that would be more stable. When Bob responded to my request, I told him we needed something that could move independently, fit on our narrow sidewalks, and give our volunteers access to the entire mural."

The solution was two JLG scissor lifts donated and delivered to the site by Best Line and JLG. "This was a perfect application for a scissor lift," said Nelson. "The compact footprint of the unit fit the sidewalk, and the size of the platform nicely accommodated two volunteers and all the materials they needed to work on the murals. And because volunteers weren't working on a ladder, they had two hands free to paste or grout tiles without worrying about slipping. Plus, when it was time to work on a new part of the mural, the self-propelled units were easy to move."

"My gosh, we couldn't have carried on without the donation of those lifts," said Strayer, which was music to Nelson's ears.

"I'm so happy the lifts worked out as well as they did," he said. "But I'm even happier that, with Best Line's help, we were able to participate in the project and make a donation that will ultimately benefit so many people who live in the Chambersburg area."

Spirit of community makes project a success

According to Strayer, it was donations like this, as well as financial contributions and the time that volunteers so willingly shared that made the mural project such a success—so much so that Strayer is already thinking of future murals to vitalize downtown Chambersburg.

"It was just so wonderful to see everyone in the community coming together for the common good. And as an art teacher, I found it to be a fun and creative way to bring art out of the classroom and into the places where we live and work and inspire creativity as it builds a sense of community."

For more information about JLG®, visit the website at www.jlg.com



Two JLG scissor lifts donated and delivered to the site by Best Line and JLG.

Cranes, lifts and power lines: a safety oriented approach

by Colleen Suo

He continued by stating that during the last 2 decades, more and more tree care professionals have been incorporating cranes and/or lifts into their operations – whether it be for tree maintenance or removal work and a large number of businesses now keep crane operators in-house.

In most cases, when you set a crane at a job site, a power line is nearby. This is especially true in residential or suburban areas. So if, as a business owner, you are considering adding a crane to your fleet, you need to “ensure that somebody has an understanding of the regulatory environment and that they are they doing things within your organization to make sure you comply.”

Know the rules

The regulatory guidance that affects the tree care industry is OSHA’s rule on cranes and derricks (26CFR1926.1400 – Cranes and Derricks in Construction) and it provides detailed and pertinent guidelines on how to operate a crane in close proximity to power lines. However, the exclusions listed in the opening paragraphs include tree trimming and removal work — so technically, the tree care industry is not covered by those federal regulations. Since in many cases, individual states adopt the federal regulations as their state guidelines, the tree professional cannot fall back on state regulations to guide them. So what’s a business engaged in removal or tree care to do? We all know that the lack of regulatory guidance does not negate the responsibility of an owner or operator if a third party investigator should show up due to an accident, incident or worse.

Sprague explained that his understanding of that situation is “since those things don’t provide me any guidance I fall back to the next level that does provide guidance and that would be OSHA.” Company or safety compliance officers need to glean information from 26CFR1926.1400 on how to behave and conduct a business in accordance with those guidelines in order to be ready to provide any third-party investigator a company’s “good faith attempt to abide by the regulations to keep employees safe.”



Steve Sprague, RCA, CTSP, featured speaker at the 2016 (December) TCIA Expo in Baltimore, MD, spoke on safety procedures and practices when using cranes and lifts in close proximity to power lines. During his introduction, Sprague emphasized that he was presenting his interpretation of the current regulatory environment, which in turn dictated how his tree care company operated cranes around power lines. He said it is ultimately up to the individual business owner to know the regulations, interpret them and incorporate a safety plan with procedures that best suit the level of hazards they encounter at any given job site.

Sprague said at Carroll Tree Service, where he is employed, he’s taken that interpretation and turned it into their company’s best practices. “I reviewed the regulatory environment and gained an understanding, interpreted what those regulations mean for us and then I developed policies and procedures to indicate to any third party investigator that we’re in compliance with those regulations. We try to make sure that any preventable accident is in fact prevented.”

In most cases,
when you set a crane
at a job site,
a power line is nearby.

What that “good faith attempt” entails is also up for interpretation to the individual investigator, so the more information and documentation (this is vital) a company has on training procedures, the better off they are regarding liability and employee safety.

He said Carroll Tree Service requires that their all their crane operations employees (not just the crane operator) have electrical hazard awareness training, that they understand aerial rescue standards (and be able to perform them), and to know CPR and first aid. They also need to be proficient in communications — “not just the standard communications that take place

Once again, interpretation is the key factor to compliance to the minimal clearance regulation.

on a regular jobsite where the crew is just going to drop a tree or a piece of one— we're talking communications as related to crane work”.

If the crew is using voice communications, everyone needs to understand what the commands are and how they are to be employed. If workers use hand signals, everyone needs to know them. Employees need to be trained on how to use them properly. Sprague also emphasized the need to have a designated trainer and to document the training. They also require proficiency in specialized climbing and ground operations.

Evaluate your employees

An owner or supervisor needs to be able to evaluate the employees and to realize that even though they may all be good workers, they're not all qualified to work on a crane operation site, “especially on a crane site where work is being done in proximity to power lines.”

Sprague said crane operators need to understand and evaluate all the variables that go into a complex crane worksite. They need to be able to recognize the potential hazards and risk factors quickly and take responsibility for either stopping the work or mitigating the hazard immediately.

Just because someone has crane experience in a standard construction setting, does not automatically qualify him or her for work on a complex worksite with elevated hazards. A smart approach to crane operations of any kind is to require certain qualifications for your operators. The size of a company and how often elevated hazards are encountered, will determine the qualifications, but Sprague noted that for his company, “[a worker] has to be able to do pretty much everything else on the crew first.” That includes operating all other equipment and being part of complex operations where clear communication with other members was essential.

They are also required to have been

a supervisor or foreman (having been responsible for other peoples safety), and have a designation (Carroll Tree Service designation) as a master rigger and understand how to do a continual assessment of a complex worksite.

Minimal clearance and site evaluation

Once again, interpretation is the key factor to compliance to the minimal clearance regulation. For a crane operator, if any portion of a crane boom or load line or anything attached to the load can come within x-number of feet of the (power) lines, then the operator is breaking the minimal clearance. Sprague explained, that in the construction industry, according to OSHA regs, if the power line is 50kv or more, the minimum clearance is 20 feet and if the voltage is 50kv or less the distance reduces to a 10-foot clearance.

As stated earlier, the more documentation a company has on total operations and safety within everyday operations, the better off they are in the event of an investigation. Does a job site evaluator go in prior to making a bid or giving an estimate? How complex is the work going to be? How many lifts will it take to complete the job? What's the chance the load will become dynamic enough to shift and break through that established clearance?

Determine where site lines need to be and how to designate them so all the ground personnel and the crane operator have a clear visual cue as to where the minimal clearance boundary is. Does the equipment have range or proximity warning alarms or use a range control limiter? If there is a need for a dedicated spotter for the job, be sure that is factored into the job quote. Bare in mind, this is a worker performing an essentially non-productive activity (although it will be an important one).

For Sprague's crews, anyone on the crane crew has stop-work authority. “They operate on a consensus paradigm – if the climber and the operator don't agree on what the next activity is and how to perform it, they are at a stand-still. Neither one of those guys can pull a ‘trump card’ and say we're doing it my way. They try to work it out, if they can't work it out, they have to call the operations supervisor or safety director and the three of them will have to take a look over the plans and work it out together,” he explained.



Operators need to be able to recognize the potential hazards and risk factors quickly and take responsibility for either stopping the work or mitigating the hazard immediately.

End of job follow up

Get an understanding from the key players as to how things went and how (if at all) they should change the next time. Could anything have been done differently? Could the company have made more money? Could you have been more efficient? How could it have been done more safely? Did you have everything you needed? Was the job planned correctly? Was anything missed in the planning stage? Is there something that can be integrated into a similar project next time? These reviews will be more complicated if there's a near miss or an incident.

Sprague recommended, “If you have a near miss or an incident, document your follow up with the crew. What happened? What led to this problem in question? How can we prevent it in the future? Then everybody [on the crew] gains an understanding of the event as a smaller group. Then at

the next safety meeting for all of the company guys, those workers who now have a new understanding of how things went, are able to share their experiences with everyone and it's documented and filed in the safety folder.”

Sprague concluded by saying that documenting safety awareness and personnel training can not be stressed enough because if in a few years down the road, “You had three other near misses that you never documented and then you have a serious accident or fatality and you have a third party investigator come in and start interviewing people, asking how many times has this happened” you need to have documentation. It's not going to be good enough to say, “Well, we train our guys” or “We do it right”. The company will have to provide documentation that it has made a good faith effort to prevent injury and to protect the safety of its employees.

Enerpac announces autonomous SyncHoist for safe and efficient hoisting

Menomonee Falls, WI – Enerpac announces the SHAS-Series Autonomous SyncHoist for high-precision load maneuvering with a single crane, allowing for the safe and accurate positioning of heavy and unbalanced loads. Deployed below-the-hook, SyncHoist can be used either directly between slings or under an auxiliary frame, enabling accurate hoisting where space is limited.

“The Autonomous SyncHoist System is the latest in a growing range of SyncHoist systems developed by Enerpac to provide accurate, safe and cost-effective positioning of heavy and unbalanced loads, eliminating the need for multiple cranes,” says Jesus Gonzalez, Enerpac.

SyncHoist enhances a crane’s capability in terms of both its ability to accurately handle heavy and unbalanced loads, and utility on-site. There is no need for an external power pack or for hydraulic hoses for the lifting cylinders, and therefore it does not require mid-hoist replacement of the power pack or generator. Moreover, where space on building sites is typically an issue, the SyncHoist system has a small footprint as only one crane is required. Additionally, each of the four lifting cylinders comes in a convenient storage and

transportation frame; and is simple and easy to set-up with just one electric connection per lifting point.

The SHAS-Series Autonomous SyncHoist system comprises four, double acting, push-pull cylinders connected to lifting points above the load by slings or under an optional auxiliary frame, and wireless controller. The lifting cylinders are available with 110 and 225 ton lifting capacities each, plunger strokes of 1 and 1.5 meters and capable of high precision lifting accuracy of +/- 1 mm over the full stroke.

A single operator controls and oversees the entire hoisting job, using a portable wireless control unit for

remote control of all cylinders. In addition to synchronized lifting and lowering, the operator is able to independently lift and lower each cylinder for balancing, tilting and positioning loads. For repetitive hoisting tasks, the controller can also be pre-programmed for positioning, tilting and aligning of loads. The wireless controller allows the operator to work at a safe distance. No cables are needed, so there is no risk of entanglement or tripping hazards.

For more information on the SHAS-Series Autonomous SyncHoist, visit: www.enerpac.com . ■



SyncHoist enhances a crane’s capability in terms of both its ability to accurately handle heavy and unbalanced loads, and utility on-site.

Photo courtesy of Enerpac



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Introducing the Terex SK 452-20 hammerhead tower crane

Terex Cranes has upgraded its line of tower cranes with the addition of the new Terex® SK 452-20 hammerhead tower crane. Featuring several mechanical and structural enhancements, the SK 452-20 hammerhead tower crane has a maximum capacity of 22 tons and a jib tip capacity of 2.75 tons. Equipped with a new hoist winch system, the SK 452-20 boasts an impressive maximum hoisting speed of 623-feet per minute and higher drum capacity of 3,248-feet.

"The SK 452-20 is a new model based on our popu-

lar SK 415-20 and our customers had an important role on the development phase," says Angelo Cosmo, product marketing manager at Terex Cranes. "We've increased winch speeds by 70 percent and the crane's rope capacity by 90 percent — the equivalent of an additional 30 floors of working under hook. We've also made structural changes that will make set up and transportation faster and easier. These enhancements will help contractors lower operating costs while getting a high return on investment."

The new hoist winch on the SK 452-20 hammerhead tower crane is built using proven technology to aid the operator in working safely and efficiently. The hoist AC motor uses an inverter drive for smooth movements and lifting precision, while a closed loop motor control system provides redundancy by continuously controlling input/output and informing the operator of the crane's status. Limit switches are calibrated electronically from the cabin. The hoist winch is mounted on an independent frame that is easy to assemble and disassemble and reduces the crane's upper parts transportation costs by utilizing more efficient transport containers.

The new slewing system consists of three 10 hp motors that provide slewing capabilities of 0.99 rpm. The design consists of one inverter drive for all three motors. The slewing system is equipped with an automatic greasing system for ease of maintenance.

The platform on the SK 452-20 crane's counter jib has been reconfigured to increase the working area for technicians when assembling/dismantling and performing maintenance. It uses built-in cable ducts to reduce cable clutter. Also, the connection of the hoist unit and counter jib is made using two pins on the back of the unit for quick engagement for transporting. Handrails flip down to reduce assembling efforts and transport size.

The Terex SK 452-20 unit can be erected on two different tower systems: TS212 and HD23. Maximum free standing height on standard configuration is 291-feet; combination of different towers are also available given the possibility to the customers of several under hook height options to meet diversified job site requirements. The crane's pre-assembled aluminum ladder is up to 70 percent lighter than previous ones, which eliminates the need for auxiliary tools or a crane to move or assemble the ladder.

The Terex EVO15 cabin on the SK 452-20 crane includes five large windows for outstanding visibility, and a 7-inch full color, anti-glare, multi-language display, with all the information the operator will need during a lift and for troubleshooting. The new configurable and ergonomic joystick controls give the operator precise maneuvering of loads. The crane's trolley and counter-jib can also be outfitted with cameras and adjusted from the cab for jobsite visibility. The crane is also ready for remote monitoring. ■



The platform on the SK 452-20 crane's counter jib has been reconfigured to increase the working area for technicians when assembling/dismantling and performing maintenance.

Photos courtesy of Terex

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2007 Chevrolet 2500 HD
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6.0L V8, Auto Trans, Air Cond., Tow Pkg., Alloy, Pwr. Winds. & Locks, "0" Recalls, Black, 79,847 Miles,
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2012 Ford F350 Reg Cab
8ft Box XLT 4WD
6.2L V8, Auto Trans., Air Cond., Alloy Wheels, Tow Pkg., Pwr. Winds & Locks, "0" Recalls, Red, 66,681 Miles
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2016 Ford F250
Crew Cab FX4 4WD
6.2L V8, Auto Trans., Air Cond., Tow Pkg., Alloy, Pwr. Winds & Locks, Cruise, "0" Recalls, Black, 28,285 Miles
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Cargo Van
3.7L, 6cyl, Auto Trans, "Prev Rental", Air Cond., P. Winds, Pwr Locks, 1 Recall, White, 18,173 Miles
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2015 Ram Crew Cab
3500 SLT 4WD
Long Box, 5.7 V8, Auto Trans., Air Cond., Tow Pkg., Pwr. Winds & Locks, Alloy, Cruise, 1 Recall, Silver, 8,281 Miles,
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2010 GMC Sierra 2500 HD
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2011 GMC Sierra
Ext Cab SLE 4WD
5.3L V8, Auto Trans., Air Cond, Tow Pkg., Pwr. Winds, Pwr. Locks, Cruise, "0" Recalls, Black, 71,136 Miles
Was \$22,969*
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2011 Chevrolet
Avalanche LT 4WD
5.3L V8, Auto Trans., Air Cond, P. Sunroof, Alloy Wheels, P. Seat, Cruise, Tow Pkg, "0" Recalls, Orange, 50,831 Miles
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Open house at George & Swede



George & Swede Sales & Services, Inc. of Pavilion, NY held their annual Open House barbecue on Thursday, July 27. The annual event is their way to show appreciation to their varied and loyal clientele.

George & Swede provides sales and service to the farming and construction communities surrounding Pavilion as well as DPWs for towns and counties far and wide. The open house is also a great opportunity for various manufacturers to be on hand showcasing their latest equipment. Corey Rogers, marketing manager for Hyundai Construction Equipment, brought a large contingent of staff in support of George &

Swede's being a premier Hyundai dealer.

Steuben County's town of Cohocton Superintendent Brian Kuhn stopped by to meet Rogers and to take possession of the town's first piece of Hyundai equipment, a HL960 wheel loader. Rogers explained that the 960 is one of their most popular models.

Hyundai equipment was used for both the excavator rodeo (R55-9A) and the all-day Rototilt demo (HX235 LCR). Other manufacturers represented included Link Belt, Allied Attachments, TAG Manufacturing and Bomag compactors just to name a few.



L-R: Corey Rogers (Hyundai CE), Greg Newell (G&S president), Brian Kuhn (town of Cohocton) and Frank Baumgardner (G&S salesman).

Photos by Colleen Suo



Hyundai Construction Equipment representatives and George & Swede staff pose in front of featured Hyundai products.



Many municipalities, farms and construction teams were well represented at the annual Open House.



The excavator rodeo allowed participants to show off their skills. The winner, Steven Marsh (not shown), got all three balls in the tub without penalty in 25.85 seconds.



The open house is a family friendly event and gives young and old a chance to check out the latest equipment sold and serviced by George & Swede.

Custom Equipment's heavy-duty, lightweight HB-1430 offers greater capacity, less damage potential

RICHFIELD, WI — With Custom Equipment's Hy-Brid HB-1430 low-level scissor

lifts, contractors and maintenance technicians can complete nearly any project at

working heights up to 20-feet. In addition, the all-purpose lifts allow end users to handle jobs

that include multiple applications from start to finish in industries as diverse as construction,

drywall, electrical, HVAC, industrial manufacturing, painting and plumbing.

HB-1430 lifts are heavy-duty, safe and lightweight, with low wheel loads that allow users to maneuver them over delicate floors and get onto green concrete sooner. They also provide an exceptional working area, with platforms that are 25-inches wide by 60-inches long and 30-inch slide out extensions for increased platform length. The lifts can accommodate two people at a time and hold up to 670 pounds, so users can place tools and materials like drywall and ductwork on the platform and reduce the number of trips up and down on a project. The extensions have a maximum capacity of 250 pounds.

Custom Equipment uses state-of-the-art technology to test its designs before building all of its lifts, including the HB-1430. This testing process allows the company to use a high-grade of steel, and because it is stronger, less material is required and the lifts weigh less than competitive machines. In addition, the process identifies stress points, allowing those areas to be reinforced without adding a lot of unnecessary weight.

The HB-1430's dual front wheels help distribute the machine's weight and provide lower wheel loads. Paired with its lightweight design, the units are able to work on delicate flooring, including tile, laminate, raised floors and mezzanines, with much lower potential for damage. Users also can get onto poured concrete several days sooner with the HB-1430 than with heavier competitive models. In addition, counter-rotating wheels reduce friction, which allows users to maneuver over tile or

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carpeting without marking or causing tears. To ensure a clean system for operating indoors in both finished and unfinished environments, the HB-1430's hydraulic system is completely self-contained with only two connection points. This reduces the potential for hydraulic fluid leaks, which lead to floor damage and potential safety hazards.

Custom Equipment designed its lift to provide safer, easier access to the platform with an entry height of 25.3-inches, one of the lowest available. This not only reduces the fatigue and knee strain associated with climbing on and off the lift, but also nearly eliminates potential falls, which can occur when operators are loading and unloading heavy tools and supplies. The enhanced safety results in lower Workers' Compensation claims and a lower negative impact on the bottom line. The HB-1430 also features an access gate that swings completely open to allow users to step up and onto the platform. The full-swing gate eliminates the need to duck under bars or chains, thereby eliminating the concern of neck or back strain injuries. Users can easily load heavy, awkward materials like drywall and lumber for framing by simply walking up and onto the platform instead of lifting the materials up and over a bar or chain.

In addition to enhanced safety as compared to other lift designs, the HB-1430 provides a safer, more efficient alternative to ladders and other manual methods commonly used to perform maintenance and industrial work in low-level access areas. The potential for falls with traditional ladders is virtually eliminated, providing a safe environment for operators to maneuver tools and materials. It also reduces the number of trips up and down to secure tools, and the large-



er platform enhances efficiency by reducing the number of times a user needs to reposition as a project progresses.

The Hy-Brid HB-1430's platform is operated up and down by the unit's hydraulics, while the electrical drive and steering system is powered by two 12-volt, deep-cycle batteries. Since the system is electrical rather than hydraulic, it draws fewer amps and requires less overall power. Electric

drive and steering is standard for the HB-1430, but is not available in other manufacturers' lifts. This, combined with lightweight construction, allows the units' battery power to last up to two times longer, or as long as 10-16 hours.

Finally, Custom Equipment designed the lifts for easy maintenance. They feature an on board battery charger that self monitors the current and stops it

once the battery is fully charged. This provides a distinct advantage over non-monitoring systems that continue to feed the current into the battery after it is fully charged. This can shorten the life of the battery and cause it to burn out. Custom Equipment also offers optional absorbent glass mat (AGM) batteries that make the HB-1430 virtually maintenance free because they never require users to add water.

For more information visit www.hybridlifts.com.

Left — With the HB-1430 low-level scissor lift by Custom Equipment, users can do a wide range of projects at working heights up to 20-feet.

Photo courtesy of Custom Equipment, Inc.



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New Demag AC 55-3 and AC 60-3 all terrain cranes efficient on the road and jobsite

Terex Cranes is introducing the three-axle AC 55-3 and AC 60-3 to its Demag® line of all terrain cranes. The three-axle 60 and 65-ton capacity models feature the latest industry advancements to increase productivity and reduce operating costs. The cranes have an automated counterweight rigging system for easy and fast setup, a one-engine concept that minimizes operational

and maintenance costs and the IC-1 Plus control system that provides the crane's maximum allowable lifting capacity, based on the slewing angle, for every crane configuration. These innovations help make the Demag three-axle cranes a one-person operation.

Demag AC 55-3 and AC 60-3 all terrain cranes have a 164-foot single cylinder telescoping main boom, the



At only 8.2-feet wide, the same as a standard truck and the ability to stay within 13 ton axle weight restrictions, Demag three-axle cranes provide fast and efficient transportation between job sites.

longest of any three-axle all terrain crane. Also, the AC 60-3 model can be fitted with a 52.5-foot extension, making it the longest system in its class. The main boom on both cranes can be lowered to five degrees below horizontal to avoid working at heights for easy and fast setup. The cranes outriggers can be positioned independently from each other for efficient positioning, taking advantage of the IC-1 Plus system's ability to calculate the maximum allowable lifting capacity based on the crane's configuration. Also, the optional remote control gives the operator the ability to safely and easily rig and operate the crane remotely from the ground.

At only 8.2-feet wide, the same as a standard truck and the ability to stay within 13.2 ton axle weight restrictions, Demag three-axle cranes provide fast and efficient transportation between job sites. The Demag AC 55-3 crane can also be configured to meet 11-ton axle weight restrictions when necessary.

The flexibility of these two cranes continues when arriving at the jobsite. The cranes are compact with excellent maneuverability to help the operator quickly position the crane. The three-sheave VarioHook system, and powerful hoist with 6.13 tons of line pull, contribute to help shorten rigging time, reduce the weight of equipment transported and save time on the job. There is also an optional all-wheel drive feature available for demanding jobsite environments.

The Demag AC 55-3 and AC 60-3 all terrain cranes will perform well in a wide range of applications including, general lifting, equipment loading and unloading, inside building lifts, as well as performing auxiliary crane work. ■



The AC 60-3 model can be fitted with a 52.5-foot extension, making it the longest system in its class.

Photos courtesy of Demag



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Versatile crane systems comply with international regulations and standards

The crane systems manufactured by material handling specialists J D Neuhaus are designed for arduous operating conditions, and have a proven track record throughout worldwide installations. Industry applications include oil and gas exploration and processing locations, both on and offshore, where explosion-proof operating conditions are paramount. Utilizing an impressive range of compliance standards ensures that the JDN equipment is also suitable for safe operation in a wide range of industrial and commercial activities, meeting the relevant safety standards where appropriate.

These JDN handling products are fully supported by a worldwide servicing operation providing product supply, installation, maintenance and service/repair services with traceability through the JDN unique parts marking system.

Typical standard crane systems currently available include: overhead cranes with single or double girder design; underhung cranes including low headroom design; jib cranes; cranes with inline mechanically linked synchronized hoists; cranes with parallel operating hoists; crane capacities up to 100 metric tons; crane operation spans up to 36 meters. All products are suitable for both indoor and outdoor installations with optional power supplies for compressed air or hydraulics.

The J D Neuhaus cranes and hoists are resistant to dust, humidity and aggressive atmospheres as standard, operating within a temperature range of minus 20 degrees C to plus 70 degrees C. They provide 100 percent duty ratings with no downtime and only minimal maintenance requirements. Overload protection and fail safe braking are incorporated with emergency stop safety features. Special limit switch arrangements for end-travel, anti-collision

and protected zone status can also be incorporated as required.

Both standard and custom-built crane designs can be supplied with crane kits, to fully accommodate customers' design and build requirements. Component kits complete with pneumatic or hydraulic drives can be supplied to crane manufacturers for overhead traveling cranes up to 10 metric tons capacity. The customer simply provides the main girder with JDN supplying all the necessary components for building a crane to their chosen design. Along with hoist and trolleys, JDN provide end carriages with drives, energy

feed systems and appropriate safety accessories.

JDN crane systems have been utilized in many general engineering operations ranging from typical heavy duty operations like power plants, refineries, sawmills, foundries, shipyards to even explosives and pyrotechnics manufacture. The Ex classifications applicable to the JDN products according to EC Directive on Hazardous Locations 2014/34/EU are EX II 2 GD IIA T4 / II 3 GD IIB T4. A higher rating available featuring increased spark protection is EX II 2 GD IIC T4.

Other industries that have less demanding load requirements, but still re-



A J D Neuhaus hydraulic crane with 80 metric ton lift capacity, with rack and pinion drive mechanism for offshore application.

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quire explosion protection include chemical and cement plants, sawmills, paint shops, oil storage plants, electro-plating and some aspects of food production where there is potential for dust-laden (and potentially explosive) environments being created.

For general engineering requirements, super silent operation is available in the hydraulic powered range, while oil or HFC pressure fluids can be used at intake pressures of 100 to 180 bar. Only two supply connections are required per hoist with leakage oil drained internally for maximum safety and cleanliness of the working environment.

The JDN range of compressed air operated hoists, operating at four or six bar pressure, incorporate integrated overload switch off functions. They also feature sensitive, infinite controls with controlled load lowering in the event of power failures.

J D Neuhaus also specialize in the provision of crane systems adapted to suit individual customer requirements. This can include remote radio control of the crane lift and traverse operations, covering comprehensive application requirements and even simultaneous operation of multiple hoists. For lifting operations on offshore rigs or sea going

vessels, crane systems can be fitted with rack and pinion drive systems to ensure safe operation during bad weather conditions. Control boxes with receiver can also be customized to suit specific electro-hydraulic interface requirements, together with all necessary system tubing in stainless steel where required.

Recently introduced nickel-plated hoist units have been introduced for operations where wash down cleaning is utilized, such as food and pharmaceuticals manufacture, or wherever other clean room operating is needed. ■

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The CNY Chapter of ASSE is returning to a full day Professional Development Conference!

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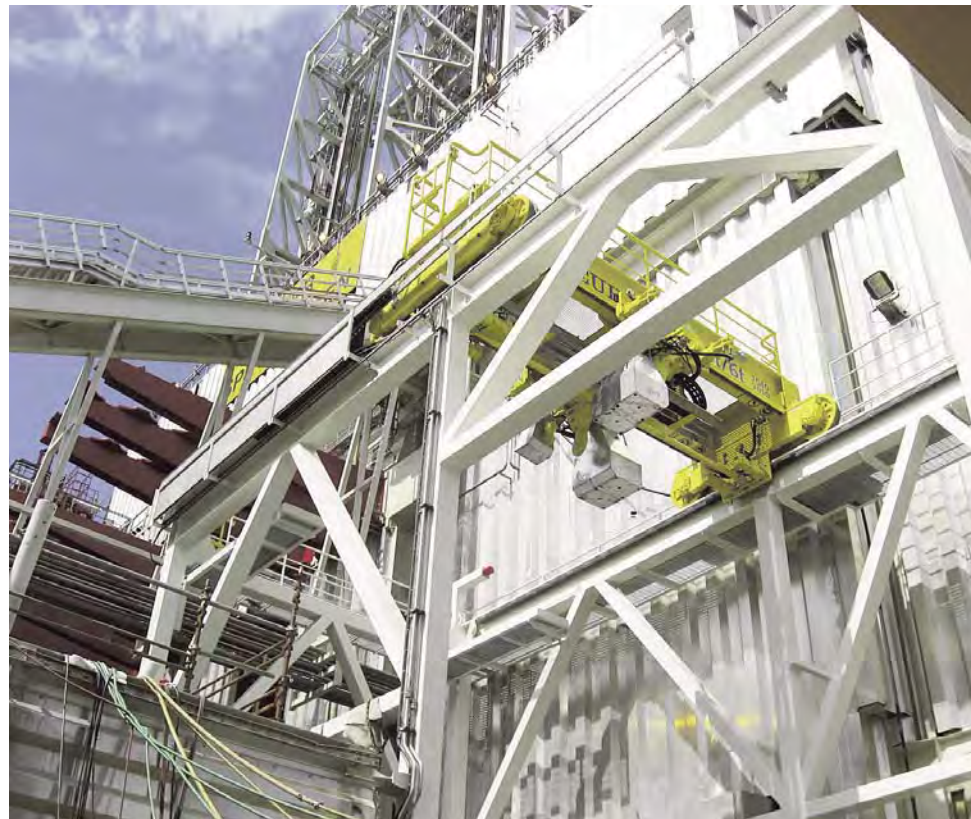
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Typical J D Neuhaus double overhead girder crane shown fitted on a semisub rig.

Photos courtesy of JD Neuhaus

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Terex introduces new RT 100US rough terrain crane

Terex Cranes expands its rough terrain crane product family with the U.S. introduction of the latest model in the Terex rough terrain lineup. The 100US ton capacity, Terex® RT 100US model offers a five section, full hydraulic boom that extends 154-feet. A 56-foot bi-fold jib further enhances the reach and versatility of the crane. Designed for easy operation, the Terex RT 100US rough terrain features a control system with integrated diagnostics, a new ergonomic cab design with an 18-degree tilt and an easy to access flat deck for safety, superior usability and comfort.

“Our development efforts for the Terex RT 100US crane revolved around the needs of our customers” explains Dr. Suresh Natarajan, director product management Rough Terrain Cranes at Terex Cranes. “We’ve seamlessly integrated a lot of great features that will help our customers be more productive on the job, while reducing transportation costs. Safety, quality, reliability and performance have been key areas that help sustain the residual value of the crane when customers decide it’s time to upgrade to a new machine.”

Operators can access lift information through the Terex IC-1 control system, which offers efficient and intuitive touchscreen operation as well as all load charts. The electro-proportional joysticks and an integrated system design provide the operator with precision controls. The setup of joystick functions can be configured to the operator’s own preferences. The Terex RT 100US crane also features four steering modes, including two-wheel, four-wheel, crab and independent rear axle steering for easy positioning and extensive versatility on the jobsite. Load capacity with asymmetric outrigger positions can be enhanced with our Capacity-Pro feature. Our Eco-Pro feature is designed to help the operator keep the focus on crane operation by managing the engine automatically,

while also delivering fuel savings.

The Terex RT 100US rough terrain crane is cost-effective to transport and operate. It has a narrow width of just 9.8-feet and removable counterweight, which allows it to be trailered without weight and width restrictions in most situations. The crane’s central lubrication system also helps to reduce service costs and time.

The Terex RT 100US crane is in compliance with both European and U.S. regulations, and is available with either a Tier 4F or Tier 3 engine to serve global market needs. By combining the expertise of our design teams across the globe, we were able to think globally to bring our customers improved efficiency, while catering to their local needs.

“Crane owners and operators have been asking for a unit that has a high capacity range with competitive load charts and long reach,” adds Natarajan. “The Terex RT 100US rough terrain crane is the result of that demand and feedback from customers. It is cost effective to operate and transport and integrates many operator-friendly features making the crane simple and smooth to operate.”

For more information about the Terex RT 100US rough terrain crane, visit www.terex.com . ■



The Terex RT 100US crane is in compliance with both European and U.S. regulations, and is available with either a Tier 4F or Tier 3 engine to serve global market needs.
Photo courtesy of Terex

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SafetyTech outrigger pads receive sixth patent for recessed handle design

GUTHRIE CENTER, IOWA — DICA received U.S. patent No. 9,550,657, earlier this year for its unique handle system on SafetyTech® outrigger pads. This is the sixth patent to be awarded for integrated SafetyTech and TuffGrip® designs.

The patent covers all recessed handles used with non-round SafetyTech outrigger pads. This newest award expands patent protection previously issued for TuffGrip handles on round SafetyTech outrigger pads by allowing for the popular recessed handle to now be included on square, rectangular or other shape SafetyTech pads.

Recessed handles are nearly flush with the edge of the pad, which helps reduce tripping and snagging hazards on the job site. The TuffGrip design provides excellent ergonomic benefits for operators with a handle length that encourages proper lifting posture and technique.

"The handle is an important part of making SafetyTech outrigger pads safe and easy to use, regardless of the size or shape of the outrigger pad," said Kris Koberg. "Since 2011, TuffGrip handles have been as strong, dependable and beneficial to operators and organizations as our engineered thermoplastic outrigger pads," he said.

An industry veteran agrees, "We've never had a SafetyTech outrigger pad break, but the older handle design would wear out. DICA's customer service is great. They would always replace the handles, and now they've improved them," said Bob Warianka, business development manager for Crane Service Inc., a full service crane rental and rigging company serving Colorado, New Mexico and Texas.

TuffGrip handles provide five key benefits:

- Guaranteed unbreakable strength;
- Comfortable to grasp, lift, carry or pull;
- Resistant to UV, hydraulic fluid, and road chemicals;

- Compact and rigid to reduce tripping hazards; and
- High visibility safety orange color.

Learn more at www.dicausa.com . ■



Recessed TuffGrip handles are nearly flush with the edge of the pad, which helps reduce tripping and snagging hazards on the job site.

Photo courtesy of SafetyTech

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In Focus: DICA will feature new and updated outrigger pads and cribbing products at ICUEE

GUTHRIE CENTER, IOWA — DICA will introduce Cavity Pad Plus outrigger pads and show design updates to ProStack™ interlocking cribbing from Booth 3551 at the International Construction & Utility Equipment Expo (ICUEE), to be held October 3-5 in Louisville, KY.

The cavity pad plus model joins the company's SafetyTech® outrigger pad product line. SafetyTech outrigger pads provide a strong, rigid, and easy to use foundation for a wide variety of outrigger enabled equipment, including mobile cranes, digger derricks, hi-lift aerials and concrete pumps. Cavity pad plus features a one-inch high footbrake with an interior beveled edge. The inverted bevel design traps the outrigger foot

which prevents it from sliding off of the outrigger pad. "This is a significant improvement in the design of our original cavity pad," said Kris Koberg, CEO. "The inverted beveled design creates a higher level of safety. In addition, the new design contributed to reductions in manufacturing costs enabling us to pass savings onto our customers," he said.

Constructed of a proprietary engineered thermoplastic material, SafetyTech pads have crush ratings up to 750 psi and rated capacities up to 325,000-pounds. At the show, DICA will also feature SafetyTech Hi-Viz outrigger pads available in yellow or orange. "Hi-Viz SafetyTech outrigger pads are a common safety department request from many utility companies," said

Koberg. Made from DICA's proprietary engineered thermoplastic material, yellow and orange D1818 (18-inch x 18-inch x 1-inch) and D2424 (24-inch x 24-inch x 1-inch) pads are designed for stabilizer enabled equipment frequently used in electric utility applications.

Look for additional product announcements from DICA at the show, as well as examples of outrigger pads, cribbing, and training products in action at many OEM equipment displays. SafetyTech outrigger pads will be displayed with Altec, Dur-A-Lift, Elliott, Hiab, Manitowoc, Skylift, Spiradrill, Terex and TIME/Versalift equipment. Altec will also show ProStack cribbing and the TrainSmart™ Pole Barrier System.

Learn more at www.dicausa.com . ■



ProStack Interlocking Cribbing, which provides additional height under outrigger floats when setting up in uneven ground conditions, will be displayed at the show with new design enhancements.

Photo courtesy of DICA

New Terex T 110 telescopic truck crane everything you need to go higher and farther

The Terex® T 110 telescopic truck crane takes performance on the road with travel speeds up to 65 mph and a long main boom reach of 197-feet. This top-performing 110 ton truck crane is designed for easy transport as well as fast positioning and rigging. Offering the longest boom length in its class and available maximum tip height of 247.6-feet with jib, the T 110 offers a mobile solution for versatility in long reach applications: Everything you need to go higher and farther.

The Terex T 110 telescopic truck crane boasts a powerful and fuel efficient 505 hp, 1750-foot-pounds DD13 engine, fully automatic transmission and pressure flow compensating hydraulics that provide smooth crane operation while helping to further reduce fuel consumption. Its best-in-class travel speeds are complemented with extra low gears for better job site handling and control. Also, the unit's air-ride suspension delivers a smooth ride over rough surfaces to increase operator comfort.

The X-pattern outriggers on the Terex

T 110 truck crane provide a stiff lifting platform while reducing the crane's overall weight. With a base weight of 84,000-pounds (including an operator and full tank of fuel) or loaded weight of 93,000-pounds (carrying 8,000-pounds of counterweight, jib and hook block), this crane is designed to travel and can quickly reach highway speeds of 65 mph.

The crane has a spacious Terex family carrier cabin, and the upper cabin includes electro-proportional joysticks that require less effort to operate compared to hydraulic joysticks. The on-board Terex IC-1 control system with intuitive touchscreen control gives the operator access to lift information and load charts. Also, the operator can effortlessly add and remove the unit's 40,000 up to 46,000-pounds in heavy configuration-counterweight from behind the controls in the cab.

The crane leverages the Terex Cranes boom design, developed in Germany, and will be built at the Terex manufacturing facility in Oklahoma City, OK. ■



The X-pattern outriggers on the Terex T 110 truck crane provide a stiff lifting platform while reducing the crane's overall weight.

Photo courtesy of Terex

In Focus: The path to liquid success

by Pam Buckley, sustainability manager, SnowEx

It's a question that continues to present itself more and more frequently for snow and ice management contractors: Should I add anti-icing services to my operation?

Anti-icing is more than an essential tool — it represents a dramatic shift in snow and ice control as a whole. Anti-icing takes a preventative approach to tackling this difficult task, in contrast to traditional deicing, a reactive process that relies on breaking up and removing ice once it has already bonded to the pavement.

Similar to preventive medicine, anti-icing relies on staying ahead of the storm and preventing iced conditions from occurring in the first place. By

spraying a light application of salt brine directly to bare pavement surfaces in the days or hours before a storm, this bottom-up process inhibits ice from bonding to the pavement — much like a greased frying pan keeps food from sticking.

Done correctly, anti-icing provides improved traction and optimally safe conditions between when a storm begins and plowing commences. This preventive strategy has been proven to require one-fourth the salt and one-tenth the overall cost of traditional deicing.

Because brine is applied with greater precision and utilizes significantly less salt, there is also less resulting damage to customer properties. The cost benefits derived from reductions in salt use, post storm cleanup, overtime and prop-

erty damage ultimately net a substantial increase in overall profits.

So why are many contractors reluctant to adopt this essential tool? Some will tell you salt is cheap or that liquids equipment is too costly. Others will suggest that it won't work in their region, or that their customers won't go for it. In reality, fear of change is the primary obstacle. It's time to park the misperceptions and follow these steps to anti-icing success.

Tap into training resources

As with any profession, staying abreast of innovation in technology is necessary for the long-term viability of a business. Anti-icing technologies have been around for decades and their value has been validated thoroughly. Most data originates in the municipal sector, but private industry associations and leading



Purpose built sprayers for winter applications are specifically engineered for deicing chemicals and application rates.

manufacturers now offer value added educational training on liquid applications tailored to the commercial market. All the commercial contractor has to do is take advantage of these resources.

Educate the customer to get their "buy-in"

A good starting point for discussing anti-icing with a property owner is simply to cover the benefits. Here are a few tips for approaching the subject with the goal of getting their "buy-in" for using liquids on their properties:

- Assess the property with the customer, identifying priority target areas and concerns.

- Understand the customer's motivations and prioritize their needs. Though a customer may stress cost, it is often not their primary concern.

- If cost really is the top priority, ask them to consider the potential cost of lost business due to slower result times, increased risk of slip and fall liability, and increased costs from property damage resulting from excessive salt usage, all of which can be mitigated by anti-icing. Anti-icing also provides a huge benefit for LEED certified properties.

- Discuss the types of materials to be used, as well as the timing of operations and outcomes the customer can expect. It often helps to have pictures that show the difference between a surface that has received an anti-icing treatment and one that has not.

As a professional, you should retain the right to use the best tool for the job, especially when using it improves the



By spraying a light application of salt brine directly to bare pavement surfaces in the days or hours before a storm, this bottom-up process inhibits ice from bonding to the pavement.

Photos courtesy of SnowEx

outcomes for the customer. Therefore, obtaining property owner "approval" may not always be necessary, depending on the type of contract involved. Utilizing anti-icing strategies provides the contractor a wider window in which to execute snow fighting operations and affords greater flexibility within certain



Although liquid deicers are extremely effective when used properly, they are not intended to replace solids.

contract structures to provide service at an equivalent or lesser cost.

- Time and Materials: This is the most challenging contract type to incorporating anti-icing services because, if billed in the customary way, both materials and time decrease. However, if executed properly, the contractor should be able to service more accounts in the same timeframe. Establish a rate and determine if it is an applied or unapplied rate.

- Per Push/Per Event: Liquid applications can be priced in a similar manner

as other services. Regional supply of certain deicers may be a factor in pricing.

- Seasonal or Lump Sum: This is the easiest contract type to include liquid strategies without major changes. Be sure to include provisions for seasons that fall short or exceed a reasonable threshold.

Use the right tools

Ultimately, successful snow fighting depends on utilizing the right tool for the job at the right time. Although liquid deicers are extremely effective when

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Contact Niki at niki@dandrowspainting.com

SnowWolf introduces all new, redesigned ProPlowFX

All purpose plow combines snow removal, light landscaping in one attachment

BURNSVILLE, MN — SnowWolf® has introduced its newly redesigned ProPlowFX, an all-purpose plow that works equally well for snow removal and light dirt moving or landscaping.

The versatility of the company's new attachment is made possible by a semi-floating torsion system that provides infinitely variable down pressure and shock absorption, a trip lock out feature and a shorter blade-to-machine distance for greater maneuverability. The ProPlowFX also features automatic oscillation, which is an improvement over the previous design. It allows the attachment to rise or fall up to five inches on either end so the plow follows the contours of the surface being plowed and scrapes it clean.

In addition, SnowWolf resized the blade to make the ProPlowFX ideal for smaller skid steers and compact tractors. The attachment is designed for use with machines that weigh up to 8,000-pounds, and it is available in five-foot, six-foot, seven-foot and eight-foot lengths.

"The new ProPlowFX is the best all-purpose blade you can buy," said SnowWolf President and Product Development Manager Jerry Holman. "It's perfect for people who want a really good snowplow that's just as good for moving dirt, filling holes and light grading year-round."

Semi-floating design

Holman said that nothing like the ProPlowFX's patent-pending torsion system has ever been used before in snow removal attachments.

The greatest benefit of the semi-floating torsion system, he said, is that it allows the operator to apply variable down pressure from zero to full down pressure on the blade. When an operator rolls the attachment plate forward or backward, the system either exerts down pressure or releases pressure from the blade's cutting edge. The farther forward an operator rotates the attachment plate, the more down pressure he exerts on the blade's edge. Eventually the system gets so stiff that it applies full down pressure and the skid steer's wheels lift off of the ground. To ease pressure, the operator rotates the attachment plate back toward the skid steer or tractor.

The torsion system also flexes to provide cushioning in the event of an obstacle strike while plowing snow or moving other material.

Finally, the system provides built-in shock absorption when traveling between projects. Rather than bouncing metal to metal on a solid or chain lift mechanism, which are common in other attachments, the ProPlowFX's weight rests on the torsion system. If an operator hits a pothole, for example, the plow will be cushioned and bounce slightly rather than delivering a jolt to the operator and machine.

A semi-floating torsion system in the completely redesigned ProPlowFX provides infinitely variable down pressure and shock absorption. By coupling it with a trip lockout feature, SnowWolf has created an all purpose attachment for year round snow removal, dirt work and light landscaping.

Photos courtesy of SnowEx



used properly, they are not intended to replace solids. Anti-icing expedites plowing and deicing strategies, and is just another tool in the toolbox.

- **Liquid Deicers:** To select the best liquid deicers for the application, the contractor needs to know the eutectic and effective temperatures, chemical properties, and functional capabilities of the deicer he intends to use. From a cost perspective it is also important to understand the regional availability of various deicers. As a general rule of thumb, magnesium chloride is more widely available west of the Mississippi River and in the Northeast. Calcium chloride is more readily available in the Great Lakes region.

- **Use Purpose Built Equipment:** Deicing liquids and brine solutions have different compositions than other liquids, and they can cause pump failures, clogged nozzles and other issues in sprayers not designed to handle them. Agricultural sprayers may seem like a cost-effective solution, but many have tried and failed going this route for winter usage. Purpose built sprayers for winter applications are specifically engineered for deicing chemicals and application rates, and most importantly for winter temperatures and conditions. They typically offer features tailored to ice management needs such as multiple independently controlled spraying zones for surface and curb applications, and hose reel spray wands for treating areas inaccessible to trucks.

Know when to apply

Every storm is different and presents unique challenges. When deciding to utilize anti-icing strategies, it is essential to monitor storm specific conditions prior to and during the event. Those conditions include pavement temperature, the amount of moisture present and anticipated, the time of day and im-

pact of solar radiation on the surface, anticipated traffic during the application timeframe, the type of deicing chemical being used, and duration of the coming storm.

Pretreatments can be done 48 hours or even longer in advance of a storm, as long as there is no rain forecasted before the storm hits. This allows contractors to choose the optimum time to treat their properties before conditions get bad. Anti-icing with salt brine is most effective at surface temperatures between 15 to 32 degrees Fahrenheit. Blended enhanced brines, calcium and magnesium chloride brines can be effective at lower temperatures.

Anti-icing is typically not recommended for events with high moisture content, freezing rain, mist or rain turning to snow, or very cold temperatures with dry blowing snow, however, with advanced knowledge and the presence of other factors it may be possible.

Grow into it

When integrating new methodologies into your winter operations, don't bite off more than you can chew. Choosing the right entry point for your operations, getting crew buy-in and setting realistic expectations are critical to ultimate success with liquids. A phased approach provides the snow contractor an opportunity to get used to the new tools and applications gradually.

For instance, pretreating your stockpile, pre-wetting salt in the chute just prior to spreading, and sidewalk anti-icing are good places to get your feet wet. Sidewalk equipment is very affordable and provides feature capabilities such as treating curb to sidewalk transitions, which are unattainable with solid deicers. The application scope is smaller, the risks more manageable and the potential ROI greater.

Once comfortable with handling the

new materials and equipment, the next step will be less daunting. It is often easier and involves less risk to begin by purchasing reputable brine or engineered liquids that offer reliable supply and consistency. This approach involves less initial startup cost and offers maximum flexibility to learn the ropes. Over the long run, and with the proper equipment, contractors who make and store their own brine will optimize cost effectiveness.

Train your crew

Use the increasing resources and training programs on anti-icing in the

industry to train your crews. Along with this training, implement monitoring and control mechanisms to track material usage. If your team doesn't understand the value of the process and how it works, and if you don't track the amount of material used, they won't dial back on the amount of salt spread, and you will not reap the savings you should by incorporating anti-icing into your operations.

Education is the key to success. For manufacturer, property owner and contractor alike, anti-icing offers a "win-win" proposition for all concerned. ■



Sidewalk equipment is very affordable and provides feature capabilities such as treating curb to sidewalk transitions.

In Focus: Earth & Turf announce new attachment

Earth & Turf Attachments, LLC is pleased to announce a snow plow blade to fit on mini skid steer loaders. This 60-inch, manual angle blade is designed to fit on the common mini skid steer mounts for the following Brands: Toro Dingo, Ramrod, Boxer and others that utilize the same mounting system.

The blade has a 19-inch high moldboard, full

spring trip, bolt-on, reversible cutting edge and its full blade trip can be locked out for light grading or moving loose materials. For more information contact Earth & Turf Attachments, LLC, 112 S. Railroad Ave., New Holland, PA 17557. Call 888-693-2638 or visit www.earthandturfattachments.com . ■

Right — Designed to fit on the common mini skid steer mounts for the following Brands: Toro Dingo, Ramrod, Boxer and others that utilize the same mounting system.

Photo courtesy of Earth & Turf Attachments, LLC



Trip lock out

A plow's trip feature is essential when plowing snow because there are often obstacles hidden under the snow. The trip edge protects the operator and the machine by minimizing or completely alleviating the force the jolt. However, when moving dirt or other materials, the trip function can hinder the plow's efficiency or even make it impossible to complete the job because the blade will trip every time it encounters an obstacle or there is too much weight from material in front of the plow.

The redesigned ProPlowFX allows an operator to lock the trip mechanism simply by adding two bolts between the blade and the quadrant interface. Holman said the re-design came in response to suggestions from customers in southern areas of the United States.

"It only snows three times a year at best in some of those states," he said. "People wanted to use the ProPlowFX at other times for filling in holes on gravel driveways, spreading black dirt or grading, but that wasn't possible because the blade tripped all the time. We fixed that with stronger implements and the trip lock out system."

The new ProPlowFX also allows the operator to adjust the tension on the trip mechanism. It comes standard with two springs, and customers can request two additional springs. This gives the operator three options — zero trip with the lock out system, easy full-trip with the two-spring configuration and medium full-trip with four springs. When an operator encounters an obstacle in either of the full-trip modes, the en-



SnowWolf has resized the blade and shortened the distance from the cutting edge to the back of the attachment on its all purpose ProPlowFX to improve maneuverability and make it a better size for smaller skid steers and compact tractors.



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tire blade tips forward and engages the extension springs between the quadrant and the moldboard. After the obstacle has been cleared, the springs return the blade to its normal position."

More compact, more efficient

Many compact tractors have mounting plates that are far away from the front of the tires, as much as three feet in some cases. When a long attachment is added to the front, it adds tension to the machine's components and affects the tractor's maneuverability.

SnowWolf designed the new ProPlowFX with compact tractors in mind by shortening the distance from the cutting edge to the back of the attachment, making it 9-1/4 inches shorter than the previous version. The adjustment makes for a tighter turn radius, provides better overall maneuverability and reduces stress on the tractor's components.

SnowWolf also reduced the height of the blade by 2-1/2 inches, from 30 inches tall to 27-1/2 inches. Holman said the new ProPlowFX is "better sized" for small skid steers and compact tractors and it's easier for an operator to see over the top. "It's a bit more compact, but it hasn't lost any strength compared to the previous design," he said.

More information: SnowWolf, 14311 Ewing Avenue, Burnsville, MN, 800-905-2265; 952-224-4430, info@snowwolfplows.com and snowwolfplows.com . ■

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- 375 Dozers
- 400 Drills
- 415 Employment Wanted
- 425 Engines
- 430 Excavators
- 470 Financial Services
- 494 For Lease
- 495 For Rent
- 505 Forklifts
- 535 Generators
- 550 Gradalls
- 555 Graders
- 610 Help Wanted
- 635 Hoists
- 705 Legal Notices
- 745 Loaders
- 760 Lumber & Wood Products
- 780 Maintenance & Repair
- 800 Mine Equipment
- 805 Miscellaneous
- 880 Parts
- 885 Parts & Repair
- 890 Pavers
- 925 Pressure Washers
- 950 Real Estate For Sale
- 955 Real Estate Wanted
- 975 Rentals
- 997 Safety Equipment
- 1017 Scrapers
- 1020 Screening Equipment
- 1040 Services Offered
- 1085 Snowplows
- 1097 Sprayers
- 1105 Sweepers
- 1120 Tools
- 1130 Tractors
- 1140 Trailers
- 1145 Training
- 1170 Truck Parts & Equipment
- 1175 Trucking
- 1180 Trucks
- 1205 Wanted

1-800-836-2888

Announcements

ADVERTISING DEADLINE

Thursday, October 14th

For as little as \$10.00 - place a classified ad in

HARD HAT NEWS

Call Peg at **1-800-836-2888**

or **518-673-0111**

or email classified@leepub.com

Announcements

★ ★ ★ ★ ★ ADVERTISERS

Get the best responses from your advertisements by including the age, condition, price and best calling hours. Also, we always recommend insertion for at least 2 issues for maximum benefits. DEADLINE for placing ads is FRIDAY prior to edition date. Call Peg at 1-800-836-2888 or 518-673-0111

CHECK YOUR AD - ADVERTISERS should check their ads on the first week of insertion. Lee Publications, Inc. shall not be liable for typographical, or errors in publication except to the extent of the cost of the first weeks insertion of the ad, and shall also not be liable for damages due to failure to publish an ad. Adjustment for errors is limited to the cost of that portion of the ad wherein the error occurred. Report any errors to Peg Patrei at 518-673-0111 or 800-836-2888.

CORRUGATED SIGNS. Great for roadside stands, political and more. The more you buy, the less they cost. Call Beth at Lee Publications. 518-673-0101. bsnyder@leepub.com

Building Materials/Supplies

Announcements

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Building Materials/Supplies

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HARD HAT

Serving The Construction Industry

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BUTLER CONCRETE BATCH PLANT, 3 compartments w/weight scales, push-button control panel, & cement silo approx. 75 ton capacity, \$24,000. 716-937-6434.

Construction Equipment For Sale

1995 ACKERMAN EC420, new motor, excellent condition; Austin Western 10x24 jaw crusher; 1997 Case 9030B w/thumb; Grove crane, 35 ton, 4WD; Joy air compressor. 413-531-2028, 413-320-7264

1998 TRAIL KING 20ton tag trailer, \$5,500; 4x8 homemade portable shaker screener, \$5,500. 607-723-9984

★ ★ ★ ★ ★
SCREENING PLANT, \$24,000. Large Excavator 35' stick, \$25,000. 518-634-2310

Several compacts, \$3,000 up. Large lowback HD truck 30' bed, \$45,000; 2001 Ford chassis, \$3,000; 2000 Dodge van, \$1,000; 96 dual wheels, 1 ton, diesel chassis, clean, \$3,000; 97 dual wheel 4x4 & plow, \$4,500; several more. Int. dozer, \$5,000; Case dozer, \$7,000; Cat D3 dozer, \$9,500; several JD dozers, \$6,000-\$10,000; 15 backhoes \$2,500-\$8,000; tractor loader backhoe, 45hp, 4x4, \$21,000; Kubota backhoe, like new, 250hrs., \$15,000; Large Excavator 35' stick, \$25,000; Screening Plant, \$22,500. Much, Much More!

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Delivery Available

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LOCUST POSTS, POLES, Split Rails, 6x6's, 4x4's, other hardwood boards and planks, custom cut. Also lots, land cleared, woodlots wanted. 518-883-8284.

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FACTORING: TRUCKING & CONSTRUCTION FACTORING, also Working Capital Loans, and Equipment Finance. IntegratedFactoring.com 585-742-9030

Help Wanted

Generators

FOR SALE: Cummins Generator - 3 phase HZ60; 240kw; 277/480 volts; 576 original hours. Was standby generator at local hospital. \$11,500/OBO. Call 315-783-2585.



Help Wanted

**Need to Hire Someone?
Looking For Your Next Star
Employee?**



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JOB BOARD**

Go to

jobs.hardhat.com

Miscellaneous

BUSINESS CARD MAGNETS only \$75.00 for 250. Free Shipping. Call Beth at Lee Publications 518-673-0101 or bsnyder@leepub.com Please allow 7-10 business days for delivery

Recreational Vehicles & Motor Homes

2012 5th Wheel Camper w/slideout, 28' **\$15,000**
Beautiful Motor Home
LOADED! 38' - 3 tip-outs
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Will accept most anything in trade.
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To Place A Classified Ad Phone 1 (800) 836-2888 • Fax (518) 673-2381 • E-mail: classified@leepub.com

HARD HAT NEWS CLASSIFIED SECTION

Mailing Address: Hard Hat News Classifieds, PO Box 121, Palatine Bridge, NY 13428

Snowplows

Snowplows

Snow Pushers 6' up to 16'
Other Sizes Available
Quick-tach, Bucket Mount or Bare Back



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Penn Yan, NY - *Steel Sales* - 315-536-2102

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TEITSWORTH TRAILERS:
Over 400 trailers in stock! PJ Goosenecks, Dumps, Tilt Tops, Landscape, Car Haulers, Skid Steer trailers, Frontier Live-stock Trailers & much more! Best prices, largest selection. Financing available. Call 585-243-1563.

Truck Parts & Equipment

GOOD USED truck tires, R22.5, \$50 each. Electric tarp for 8 yard dump truck, \$650. 2005 Dakota 4x4 V8, rusty, \$795. Rebuilt starter for 466 International engine, \$90. 315-429-8010 Arnold

Trucks

Trucks

Martin's Farm Trucks, LLC
Trucks for All Your Needs - Specializing in Agri-Business Vehicles




1999 Kenworth T800, N14 Cum 525hp, Jake, 18 Spd, 12/46 Axles, 252" WB, 62" Sleeper **\$24,900**

2001 Int 8100 ISM Cum 350hp, Jake, 10 Spd, 32k GVW, Wheel Lock, Meyers 8118 Rear Unload Silage Body, Tarp **\$34,500**

717-597-0310

Trucks

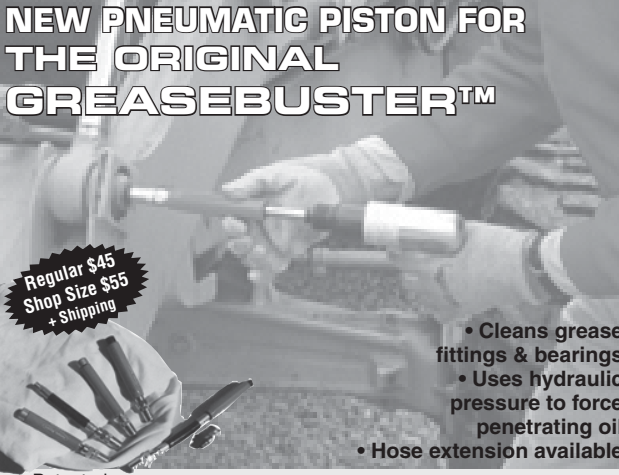


89 Ford F700 14' dump low profile 6cyl. Ford diesel Automatic, Hydraulic brakes, new paint new tires, ready to go. \$12,900. 508-756-3199

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Tools

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Trailers


Trailers

SPECIAL OF THE WEEK



NEW PJ Gooseneck
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\$8,000

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5 EASY WAYS TO PLACE A HARD HAT NEWS CLASSIFIED AD

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Just give Peggy a call at **1-800-836-2888**

2. FAX IT IN -
For MasterCard, Visa, American Express or Discover customers...
Fill out the form completely and fax to Peggy at **(518) 673-2381**

3. MAIL IT IN -
Fill out the form, calculate the cost, enclose your check/money order or credit card information and mail to:
Hard Hat News Classifieds,
PO Box 121,
Palatine Bridge, NY 13428

4. E-MAIL IT IN -
E-mail your ad to **classified@leepub.com**
e-mail or call with your credit card information.

5. ON-LINE -
Go to **hardhat.com** and follow the **Place a Classified Ad** button to place your ad 24/7 !

		\$10.00
\$10.30	\$10.60	\$10.90
\$11.20	\$11.50	\$11.50
\$11.80	\$12.10	\$12.40
\$12.70	\$13.00	\$13.30
\$13.60	\$13.90	\$14.20
\$14.50	\$14.80	\$15.10

Name:(Print) _____
Street: _____ County: _____
City: _____ St.: _____ Zip: _____
Phone: _____ Fax: _____
Cell: _____ E-mail: _____

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☐ Please charge my credit card:
☐ American Express ☐ Discover ☐ Visa ☐ MasterCard

Card#: _____ Exp. Date: _____ (MM/YY)
* (REQ.) Card Security Code # _____
Signature: _____ Date: _____ (for credit card payment only) (MM/YY)

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Cost per issue: \$10.00 for the first 14 words, 30¢ each additional word.
(Phone # counts as one word)
Number of Issues to run _____

HARD HAT NEWS EQUIPMENT CONNECTION

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Email your photo, description & phone number to wjennings@leepub.com

or mail to Hard Hat News Equipment Connection,

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Equipment Connection Ads Cost \$45 each or \$40 each if run three times or more.



2002 Trail King

20 Ton, 21' long, air brakes, 8 brand new tires. Housed in garage when not in use. Used 5 months per year. **\$11,500**

Ron 716-912-8021



1992 Case-IH 595 Tractor

Alamo-Interstater roadside mower; 7500 Hrs.

\$9,500

Keil Equipment
518-537-6221



2008 Doosan DX140 Excavator

36" Bucket, 1450 Hrs

\$65,000

Keil Equipment
518-537-6221

2016 Chevy Express 2500 Cargo Vans

(1) extended, all 6.0L V8, 6 spd. auto, AC, AM/FM, PL, PW, stk #B169R8225

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Starting at **\$1,500**

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2007 Ventrac 4231TD

(turbo diesel)

31HP (Needs Turbo) 3 Point Hitch, Rear Hydraulics

\$9,500

Keil Equipment
518-537-6221

2016 Ford Transit T250

low roof, gas, auto, PW, PL, AC, 11,000 miles, running boards, partition, wood cargo rails. Stk# D169D5702

\$23,990



BUSINESS
FLEET & COMMERCIAL DIVISION

315-233-5342

2012 GMC 16' DRW Cube

Pull Out Walk Up Ramp, Trailer Hitch, 6L V8 Gas, A/C, AM/FM, 95,000 Miles. Stk# D139R7554

NOW \$18,990



BUSINESS
FLEET & COMMERCIAL DIVISION

315-233-5342



2015 GMC Sierra 1500

2nd Reg. Cab Long Bed 5.3L V8, 6 spd. auto., 19,000 miles

\$19,990



BUSINESS
FLEET & COMMERCIAL DIVISION

315-233-5342

Harbor Equipment, LLC



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Bumperpull, Tapered Entry, Hyd Dampner
\$5,369

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billw@harborequipment.com

Harbor Equipment, LLC



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\$1,640

5 Junior Dr, East Durham, NY 12423 • 518-239-4900
billw@harborequipment.com

Harbor Equipment, LLC



2016 Sure Trac
6x12, Tube Top, Utility, 3K, Bumperpull
\$1,598

5 Junior Dr, East Durham, NY 12423 • 518-239-4900
billw@harborequipment.com

Snow Plow Safety Tips

With the recent temperatures, it's hard to believe that we will soon be dealing with cold and snow. With snow comes the need to move snow. Snow removal can be dangerous and there are precautions that should be taken in order to reduce the risk of accidents or injury while plowing snow.

- Use an inspection checklist to help identify the safety and operational readiness of the snowplow you will be operating. Check items such as the windshield wipers, defroster, lights, breaks, safety beacons and other safety equipment before you begin plowing. Snowplows add a lot of weight to the front of your vehicle, it is important to make sure you balance this weight out.

- Before beginning to plow, check and make sure your gas tank is full.

- Make sure you are well rested before you begin plowing. Driving while tired is

extremely dangerous and may lead to an accident that could result in injuries or fatalities.

- Before plowing is needed, drive your route so that you are familiar with the route and also objects that could be damaged or cause damage to the plow such as mailboxes, fences or other objects. Keep an eye out for items that may have been buried in the snow.

- Know where you are going to pile the snow before you begin plowing.

- Follow all traffic laws, including wearing your seatbelt!

- Be aware of the weather conditions. Driving too fast for the weather conditions can have tragic consequences.

- Dress appropriately for the weather. The cab of your truck may be nice and warm, but you never know when you may need to get out of the truck to look at or repair something.



- Go slow and take breaks as needed.

- Stay alert! Keep your eyes moving; don't look at any one thing for too long, the white landscaping and falling snow can have a hypnotizing effect on the eyes.

- Always turn and look before backing up, don't rely on just the mirrors.

Drivers on the road should also be cautious of snowplows on the road. Give snowplows plenty of room on the road and keep in mind they may have a hard time seeing you if you try to pass them, so passing a snowplow is not a good idea. When driving behind a snow plow it is important to follow at a safe distance; snow plows are usually going slow and often cannot see cars that are following close behind them and they

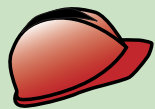
may be spreading salt or sand which can damage a car's paint.

Taking the time to understand the risks and follow safety guidelines can help you have a safe and productive season.

Like with any physical or vehicular task, there are risks involved. It is our hope here at Catamount Consulting that being better prepared and more knowledgeable in what could transpire helps deter and prevent accidents, injuries or tragedies.

For additional information on this topic or to view our current raining schedule, contact Catamount Consulting at 518-623-2352 or visit www.catamountconsultingllc.com . ■

HARD HAT NEWS



People in the industry

In Memoriam: Charlie Streeter, Streeter Associates

We are saddened by the passing of Charlie Streeter of Streeter Associates, Elmira, NY, a past president of the General Building Contractors of New York State.

At the age of 78, Charlie passed away peacefully at his home on Tuesday, August 8, 2017. Charlie was born in Elmira, son of the late Charles M., Sr. and Claribel Lovell Streeter. He was also predeceased by his brother John A. Streeter. Charlie is survived by his wife of 57 years Margaret "Peggy" Baxter Streeter, daughter

ter Molly S. Davin with husband Thomas of Newport Beach CA and their daughters, Meredith, Caroline and Alexis Davin, son Jeffrey B. Streeter with wife Barbara Yunis of Elmira and their sons, Maxcy and Baxter Streeter, daughter Julia S. Berle with husband Dolf of Dallas TX and their children, Baxter, Peter and Eliza Berl, sister and brother-in-law Constance S. and Peter MacInnis of Londonderry NH, brothers-in-law and sisters-in-law, Paul G. and Marilyn Baxter of Pinehurst NC, Douglas S. and

Charlene Baxter of New London NH; along with several nieces and nephews.

Charlie grew up in Elmira. He was a graduate of Mount Hermon prep school in Mount Hermon MA. He then went on to Cornell University where he earned his Bachelor Degree in Civil Engineering. Charlie retired as Chairman of the Board of Streeter Associates in 2002 with nearly 40 years of company service.

Throughout the years Charlie was very active in the community. He served on the boards of

Junior Achievement, Chemung Canal Trust Company, The Anderson Foundation, The Arctic League, where he was a past president, and served as chairman of the Building Committee at The Park Church. At the state level Charlie was active in leadership positions in the construction industry organizations including holding the position of past president of the General Building Contractors Association of NYS. He was a member of The Park Church, Elmira City Club and the Elmira Country Club.

Charlie enjoyed woodworking, traveling, boating and photography. Charlie and Peggy treasured the summers on Seneca Lake in a home they had built in 1980.

Those wishing may remember Charlie with a donation to either, The Arctic League, P.O. Box 113, Elmira NY 14902 or CareFirst, 3805 Meads Creek Rd., Painted Post, NY 14870-9509.

We extend our deepest sympathies to his family and many friends. ■

Groff Tractor & Equipment, LLC named a Case Diamond Dealer

Award recognizes excellence for the fifth consecutive year

MECHANICSBURG, PA — Groff Tractor & Equipment, LLC is pleased to announce that the company has been named a Diamond Dealer by CASE Construction for the fifth consecutive year. The award recognizes dealerships across North America for excellence in five categories, including sales performance, marketing and communications, product support, parts support and training.

"I'm proud of our entire team for being honored with this award so consistently," says Mike Savastio, president and CEO. "We appreciate being recognized for our ongoing commitment to provide the best possible service and support to our customers."

Groff Tractor has been selling and

servicing CASE equipment since 1958. The company offers a full range of services for heavy equipment maintenance and repairs that includes everything from onsite emergency service to in-shop engine rebuilds by factory trained technicians. They represent the entire line of CASE equipment, and many models are available to rent.

As one of only eight Diamond Dealers named in the U.S. for 2017, Groff Tractor & Equipment, LLC is committed to continuing its tradition of service excellence. The dealer represents CASE throughout Pennsylvania, Maryland, and New Jersey.

For more information, visit their website at www.grofftractor.com . ■



The company offers a full range of services for heavy equipment maintenance and repairs that includes everything from onsite emergency service to in-shop engine rebuilds by factory trained technicians.

Photo courtesy of Groff Tractor

CALENDAR OF EVENTS

SEP 10 - 11 14th Annual Old Construction & Mining Equipment Show New Athens, Ohio. Saturday 10 am-6 pm, Sunday 9 am-4 pm. \$3. For more information visit www.facebook.com/ocmes , email oldironshow@yahoo.com or call 740-312-5385 or 330-618-8032.
SEP 11 - 13 Safety Leadership Conference The Hilton Atlanta, Atlanta, GA. For more information visit http://safetyleadershipconference.com/slc17/public/enter.aspx .
SEP 14 - 17 American Society of Concrete Contractors 16th Annual Conference Arizona Grand Resort, Phoenix, AZ. For more information visit www.ascconline.org or call 866-788-2722.
SEP 12 - OCT 10 WebEd: AGC's Strategic Growth WebEd Series Pioneering the Next Generation of America's Builders For more information visit http://meetings.agc.org/srategicgrowthwebed/ .
SEP 13 WebEd: Modularization-An Industry Best Practice to Improve Project Performance 2-3 pm. Free. For more information visit http://tinyurl.com/ycerdahz .
SEP 13 - 14 AGC Construction Environmental Conference Crystal City, VA. For more information visit http://meetings.agc.org/cec .
SEP 14 WebEd: Evaluating Your Collaboration & Commissioning Technology 2-3 pm. For more information visit http://tinyurl.com/y6uqmd86 .
SEP 14 - 17 American Society of Concrete Contractors to Hold 16th Annual Conference Arizona Grand Resort, Phoenix, AZ. For more information visit www.ascconline.org or call 866-788-2722.
SEP 18 WebEd: OSHA's New Silica Standard for Construction: Are You Equipped to Comply 2-3 pm. For more information visit http://tinyurl.com/yak2rosw .
SEP 18 - 20 Concrete Durability Course Salt Lake City. For more information contact Jessica Walgenbach at 888-84-NRMCA ext. 1152.
SEP 20 - 21 38th Annual NE Public Works Expo Boxboro Regency, Boxborough, MA. A complete listing of seminar topics and time will be on the show's website at www.nepublicworksexpo.org as the topics and times are announced. For more information call Dayna at 781-245-7070.
SEP 21 - 23 IMPACT Leadership Group Conference Griffin Gate Marriott Resort, Lexington, KY. For more information and to register visit http://tinyurl.com/yaptave8 .
SEP 28 - 29 37th Annual New England Public Works Expo Boxborough, MA. For more information visit www.nepublicworksexpo.org or call 781-245-7070.
NDA Demolition Estimating Course Westin Baltimore Washington Airport, 1110 Old Elkridge Landing Road, Linthicum Heights, MD. For more information email info@demolitionassociation.com or call 202-367-1152.
SEP 28 - OCT 1 UTCA Utility & Transportation Contractors Association Convention Borgata Hotel Casino & Spa, Atlantic City, NJ. Register online at utcanj.org .

OCT 1 - 3 NRMCA's ConcreteWorks Grapevine, TX. For more information visit www.nrmca.org/Conferences_Events/ConcreteWorks/2017/index.html .
OCT 2 - 4 AGC Advanced Safety Management Training Course Arlington, VA. For more information visit http://tinyurl.com/lbma239 .
OCT 3 - 5 The International Construction and Utility Equipment Exposition Louisville, KY. For more information visit http://icuee.com .
OCT 4 All-Day Leadership Boot Camp-Leaders on a Mission 2017 Pittsburgh, PA. Visit www.CPSconference.com for complete details and to register.
OCT 5 - 7 Concrete Polishing & Staining Conference and Expo Pittsburgh, PA. Visit www.CPSconference.com for more information.
OCT 11 - 13 Paving for Performance: Designed to Perform Conference JW Marriott Buckhead, Atlanta, GA. For more information visit http://tinyurl.com/y799oxlp . Construction HR & Training Professionals Conference Phoenix, AZ. For more information visit http://meetings.agc.org/hrted/ .
OCT 12 Strength Design of Masonry Webinar For more information on the webinar or to register visit https://masonrysociety.org/event/strength-design-masonry-webinar .
OCT 15 - 19 ACI Fall Convention Disneyland Hotel, Anaheim, CA. For more information visit ascconline.org .
OCT 18 WebEd: Creating a Marketing Plan That Drives Results 2-3 pm. For more information visit http://tinyurl.com/y9j4bnzr .
OCT 24 WebEd: Lean Safety: Improving your Safety Culture with Lean Management Tools 2-3 pm. For more information visit http://tinyurl.com/y9a6ucko .
OCT 30 AGC of America Innovation Award Deadline For more information contact Sarah Gallegos at gallegoss@agc.org .
NOV 5 - 10 Advanced Management Program Dallas, TX. For more information visit www.eiseverywhere.com/ehome/221782 .
NOV 6 - 8 BIMForum Dallas, TX. For more information visit www.eiseverywhere.com/ehome/250638 .
NOV 9 - 11 MIX Orientation Meeting Ruttura & Sons Const. Co., Inc., West Babylon, NY. For more information visit ascconline.org .
DEC 7 - 8 NDA Winer Board Meeting Sanibel Harbour, Fort. Myers, FL. For more information visit www.demolitionassociation.com/calendar_day.asp?date=12/7/17&event=66 .
FEB 22 - 24, 2018 Demolition 2018 Austin Convention Center, Austin, TX. For more information visit www.demolitionassociation.com/convention .
MAR 6 - 8 World of Asphalt Houston, TX. For more information call 800-867-6060 or email sales@worldofasphalt.com .



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September 2017

Volume 26 Number 11

Dakota Wood-Grinding, Inc.
• ~ Powering St. Paul





Guillemette and Dakota Wood have been using Precision Husky Grinders since they started making them back in 1998.

Photos courtesy of Precision Husky

In 1992, Hurricane Andrew caused over 25 billion dollars in damage to the state of Florida. After the horrific tragedy, the state was in need of cleanup. At the time, John Guillemette worked for a large construction company in Southern Minnesota. He was sent to Southern Florida as part of a hurricane cleanup crew. Guillemette spent six months in Florida leading the company's grinder division.

Upon returning to the Minneapolis-Saint Paul area, Guillemette became a manager with the company and stayed with them till 2001 when the company was bought out by NRG Energy. When NRG Energy went bankrupt, they offered to sell the grinding division to Guillemette. The two sides worked out a deal, and Dakota Wood-Grinding, Inc. was created in 2003.

Fourteen years later, Dakota Wood has a staff of eight plus Guillemette and clients in five states (Minnesota, North Dakota, South Dakota, Wisconsin, and Iowa). Dakota Wood's main client is District Energy. When they converted the plant in St. Paul to biomass wood, they brought in Dakota Wood to grind, and the two have been working together ever since.

Dakota Wood is not the cheapest grinder around. However, Guillemette says, "We come when we say we will, make sure we get the job done, and we work with reliable machines." The machines that Guillemette refers to are the Precision Husky ProGrind 5200 KBL. Regarding the machine, Guillemette says, "People are awed and amazed when they see it in action. The wood just pours off the conveyor belt." He's confident that no machine grinds quicker. This spectacular output is due to the double capacity 140 Tub Drive Chain and the 60" wide stacking conveyor belt.

Dakota Wood has two grinders, the Precision Husky ProGrind 5100 (an earlier model) and the 5200. In fact, Guillemette and Dakota Wood have been using Precision Husky Grinders since they started making them



This spectacular output is due to the double capacity 140 Tub Drive Chain and the 60" wide stacking conveyor belt.

back in 1998. While Precision Husky makes all types of grinders, Guillemette buys tub grinders because, “I can put any kind of wood in it, and I’m not concerned about the diameter.” He notes that he does try and get off as much of the dirt as he can to facilitate grinding.

As happy as Guillemette is with the earlier model, he is even more pleased with the Precision Husky ProGrind 5200 KBL. Besides its speed and capability, Guillemette appreciates the ease of maintenance features of the 5200, which is done through various monitoring systems.

The ProGrind 5200 KBL also includes a microprocessor controller, which provides remote push button on controlled clutch engagement of the HPTO. The controller is capable of monitoring clutch pressure, temperature, filter condition, engine speed, and clutch output speed. The controller features an ISO standard symbol display with LED lights to indicate system conditions.

Another feature of the ProGrind 5200 KBL is the PT Tech HPTO™ Hydraulic Power Take-Off. It’s a totally enclosed wet hydraulic clutch that requires no adjustment throughout its wear life. During a torque spike, the clutch will act as a torque limiter by slipping to absorb the shockload.

The system allows operators to continuously monitor mill performance. The design innovation helps identify potential problems before they actually arise. “They’ve computerized everything. The system tells you about maintenance needs and the transducers sense if pressure has changed or an oil leak occurs,” says Guillemette. There’s also a filter switch which tells you the filter is plugged and in need of maintenance.

Taking care of the machines so that they are in working condition is a key to

Dakota Wood’s success. While some may cut corners in terms of maintenance, Guillemette is dedicated to it. He learned this lesson from his father who owned a ready mixed concrete company. His father preached the adage, ‘you have to spend money to make money.’ Guillemette says, “I know the grinders inside and out, take care of the machines, and pay for the warranty. It pays off because my customers know I’m reliable.”

As part of Dakota Wood’s contract with District Energy, they grind the biomass wood used to power all of downtown St. Paul. In the summer, that means grinding enough wood to fill 30 truckloads a day. In the winter, when the average high in January is just 26 degrees, the workload increases to 60 truckloads a day as Dakota Wood is responsible for grinding enough to heat all of downtown St. Paul and feed the electric grid.

Guillemette uses oil heaters and generators to run the ProGrind 5200 KBL all night and all weekend. If they turned the machines off, Guillemette says, the oil would be thick because of the cold, and the engine would not start. When the guys return to work the next day or Monday morning, the machines are ready to go – no worse for the wear.

Guillemette can’t say enough about Precision Husky’s treatment of him and his business. “I’m a good customer, and they take care of me.” However, what he most appreciates about Precision Husky is their machines. When asked what he would change about the ProGrind 5200 KBL, Guillemette thinks for a while. Finally, he says, “nothing.” The reliability of the machine has made Dakota Wood a company that its customers can count on.



Besides its speed and capability, Guillemette appreciates the ease of maintenance features of the 5200, which is done through various monitoring systems.



Frederick W. Lee
Publisher, President

Bruce Button VP, General Manager
bbutton@leepub.com

Jessica Mackay Production Coordinator
ext. 137 jmackay@leepub.com

Colleen Suo Editor
ext. 145 csuo@leepub.com

Alex Huebner Social Media Coordinator
ext. 163 ahuebner@leepub.com

Ad sales: 800-218-5586

Matt Stanley Sales Manager
ext. 124 mstanley@leepub.com

Peggy Patrel Classified Ad Manager
ext. 111 classified@leepub.com

Tina Krieger
ext. 108 tkreiger@leepub.com

Joanne Hotaling
ext. 135 jhotaling@leepub.com

Brian Johnson
ext. 161 bjohnson@leepub.com

Scott Duffy
802-484-7240 srduffy@together.net

Wendell Jennings
ext. 114 wjennings@leepub.com

Christopher Nyce
267-261-4235 cnyce@leepub.com

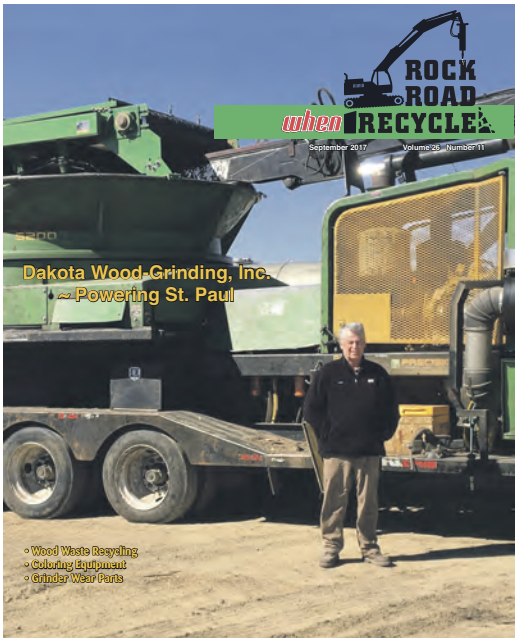
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Dakota Wood Grinding Inc. ~ Powering St. Paul

by Larry Bernstein
John Guillemete and Dakota Wood have been using Precision Husky grinders since they started making them back in 1998.

Photo courtesy of Precision Husky

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Lake City Portable Screeners joins HGACBuy Cooperative Purchasing Program

LAKE CITY, PA — Lake Erie Portable Screeners, creator of the rugged Pitbull™2300 screening plant and an industry leader in the manufacturing of portable, heavy-duty screeners, simplifies the buying process for its nationwide government and nonprofit customers by joining the HGACBuy Cooperative Purchasing Program. The program makes the governmental procurement process more efficient, potentially saving members months. The move benefits all Lake Erie customers in the continental United States who have joined or plan to join the program, including departments of transportation, townships, municipalities, city governments, schools and park departments.

"We serve a number of customers in the government sector and they were seeking to streamline their buying process," said Stuart Foradora, Lake Erie Portable Screeners factory representative. "By joining HGACBuy, which cuts through the red tape for government agencies, we offer our customers the ability to secure our product without committing time or budget to a lengthy bid process."

HGACBuy expedites the procurement process and saves government agency members money by giving them access to vol-

ume purchasing and discounts as well as absorbing the costs associated with publishing legal notices. The program also writes technical specifications for members, eliminating the need to hire consultants. These features cut out the months agencies otherwise would spend preparing documents and satisfying all the requirements for competitive bids and proposals.

Lake Erie will renew its membership every two years. Now, all of the company's products are available through the program. That includes the diesel, propane and electric versions of the Pitbull 2300 screening plant as well as the new, value-priced, Pitbull 2300B box screener and the company's new static grizzly screen. The screening plants can be used to deliver high outputs of a wide range of materials, including topsoil, mulch, gravel, stone and asphalt.

The HGACBuy program is available through the Houston-Galveston Area Council, or H-GAC, a regional council of governments operating under the laws of the State of Texas. The H-GAC Board awards all contracts for products and services, which can then be made available to local governments nationwide through HGACBuy.

Local governments can join the program for free by vis-

iting the website: www.HGACBuy.com. Once logged in, find Lake Erie Portable Screeners by searching the company's product code — 83A — or by selecting "Public Works Equipment," then "Earth Moving & Construction Equipment" and entering Lake Erie's contract number: EM06-17.

The durable and versatile Pitbull 2300B can be configured to screen a wide range of materials, such as soil, mulch, asphalt, stone and gravel for use by landscapers, energy facilities, contractors and municipalities. For more information: info@pitbullscreeners.com; www.pitbullscreeners.com; YouTube; or Facebook. ■



Lake Erie Portable Screeners simplifies the buying process for its nationwide government and nonprofit customers by joining HGACBuy. The program saves members time and money by simplifying the governmental procurement process.

Image courtesy of Lake Erie Portable Screeners

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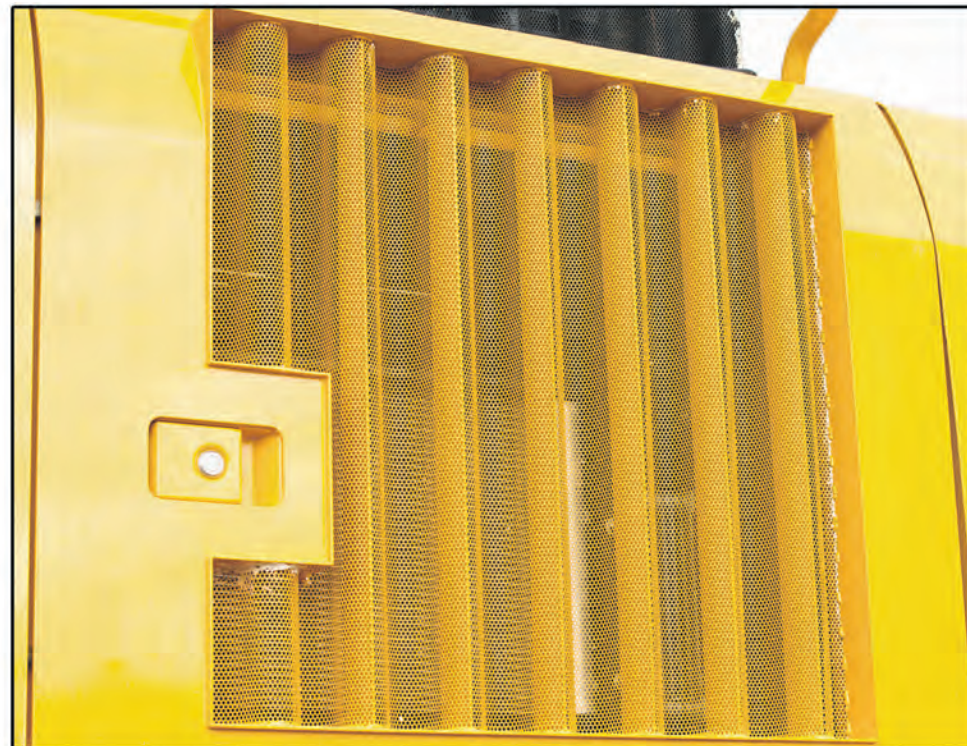
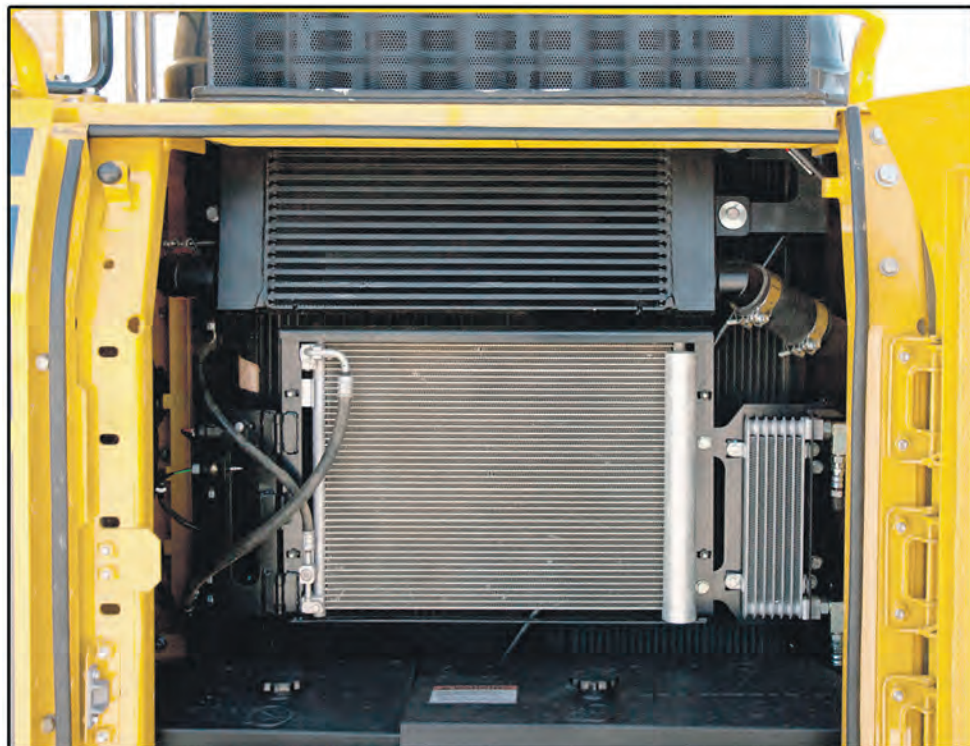
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Grapples



Komatsu America Corp. introduces new PC290LL-11 log loader



The Komatsu PC290LL-11 features a new high capacity cooling system for improved performance and reliability. The screened and sealed cooler intake door and cooler filter net are easily cleaned.

Photos courtesy of Komatsu America

New features deliver high performance

CHATTANOOGA, TN — Komatsu America Corp., a leading global heavy equipment manufacturer, today introduced the new PC290LL-11 as an addition to its current log loader product line-up. Featuring a 196 net horsepower, EPA Tier 4 Final, Komatsu SAA6D107E-3 engine, the new PC290LL-11 is available in either a 40-foot reach, live heel log loader, or a 34-foot reach, road builder configuration, for high performance in demanding logging applications. Log loader and road builder operating weights are 89,730- and 82,230-pounds, respectively.

Other new or improved PC290LL-11 features include a high capacity cooling system, high drawbar pull, additional forestry guarding, narrower, 11-foot 5-inch transport width, more comfortable operator controls, all LED lighting, and KOMTRAX® 5.0 technology.

Performance and Productivity

The PC290LL-11 features a new high capacity cooling system, utilizing wide core cooling fins (3 mm vs. the standard core's 1.75 mm fin spacing) for the radiator, hydraulic oil cooler, and charge air cooler, providing improved performance and reliability. The heavy duty 1/4-inch thick cooler

air intake door is waffle-screened and sealed to reduce debris accumulation and cleaning time.

Powerful PC360-class final drives generate 64,250-pounds of drawbar pull for excellent shovel logging and rough terrain performance. A rugged PC390-class swing motor and drive delivers high swing torque for superior log loading and road building performance.

Komatsu's standard, robust forestry-guarding package now includes an enhanced right hand corner guard system. The guard system now has a fully protected LED light, plus a rugged tree deflector with a "hockey stick" design that can be removed or reverse-mounted for transport. Along with the tree deflector, the track frame steps can also be removed or reverse-mounted to achieve an 11-foot 5-inch transport width, which meets most local regulations and reduces the need for special transport permits.

Operator comfort and convenience

The modern Komatsu ROPS/OPS/FOPS/TOPS/FOG/WCB/Oregon OSHA certified forestry cab provides a comfortable working environment. The cab is available with a 48-inch hydraulic tilt or a 7-inch fixed cab riser. All cab and work equipment lights are



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Inside the cab, new, more comfortable, lower profile pilot proportional control (PPC) levers are used to control the boom, arm and heel functions. New, thumb-actuated, electro-proportional control (EPC) sliding buttons provide the operator with smoother and more precise attachment control of the grapple, bucket thumb, etc. An updated, large, 7-inch LCD monitor has a new split-display mode, showing both a rear camera view and key machine-gauge data at the same time. KOMTRAX Level 5 technology feeds the operator machine data, such as fuel and diesel exhaust fluid (DEF) levels, Komatsu Diesel Particulate Filter (DPF), regeneration status, location, cautions and maintenance alert information.

Komatsu CARE®

The PC290LL-11, whether rented, leased or purchased, is covered by the Komatsu CARE® program for the first three years or 2000 hours, whichever comes first. Komatsu CARE includes scheduled factory maintenance, a 50-point inspection at each service and up to two complimentary Komatsu DPF exchanges and up to two DEF tank flushes in the first five years.

For more information, visit www.komatsuforest.us and www.komatsuamerica.com . ■



The new Komatsu PC290LL-11 has 196 net horsepower and is available in either a 40-foot reach, live heel log loader or a 34-foot reach, road builder configuration.

Terramac appoints Road Machinery as authorized dealer

ELBURN, IL — Terramac, a leading manufacturer of innovative rubber track crawler carriers, expands its representation in the North American market to include Road Machinery as part of its dealer network. Road Machinery will represent the versatile Terramac product line in Arizona and California.

"Terramac crawler carriers deliver unmatched quality and extreme versatility," says Jamie Carson, general manager at Road Machinery. "We aim to offer our customers top-notch machinery that adds value as well as superior product support. Terramac is a natural fit with our current equipment offerings and we're excited to provide our customers with limitless customization capabilities on the Terramac crawler carriers."

Road Machinery will offer Terramac's RT9, RT14 and RT14R crawler carriers to serve a wide range of industries including general construction, mining, environmental and forestry. In addition to Terramac's three standard options — convertible dump-to-flat beds, rock dump beds and flatbeds — Road Machinery will offer Terramac units customized with support attachments such as hydroseeders, spray booms, digger derricks, cranes and even cement mixers. With the addition of the versatile Terramac product line, Road Machinery plans to expand into other markets, including major pipeline transmission.

The team at Road Machinery will provide professional sales, rental and after-

market support on the Terramac product line across 13 branch locations. Road Machinery's knowledgeable staff has been fully trained in the application, sales, parts and service of Terramac crawler carriers and stands ready to offer prompt and professional customer support.

"Road Machinery shows a genuine commitment to total customer satisfaction by providing superior equipment, parts and service to their customers," states Matt Slater, director of Sales at Terramac. "We're pleased to have them join our growing dealer network and we look forward to a strong and successful partnership."

Road Machinery is a leading provider of construction, mining and forestry equipment with numerous locations across the southwest United States including world class remanufacturing facilities. Road Machinery offers the full-line of Terramac crawler carriers for sale or rent as well as full-service maintenance and parts. For more information on Road Machinery or to find the nearest location please visit www.roadmachinery.com . ■



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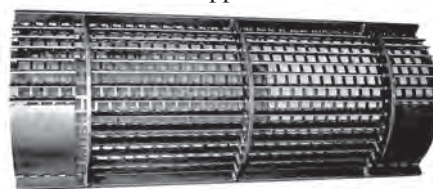
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Johnson Ops: Coloring mulch is part of the daily grind

by Bill and Mary Weaver



Dave Johnson, loads once-ground mulch with their CAT 1120C into the hopper of the Rotochopper FP 66, which simultaneously regrinds and colors it. Ed Feyen monitors the addition of Mulch Magic Colorant by BASF.

Photos by Bill and Mary Weaver.

Grinding and coloring mulch is a surprisingly quick process using a Rotochopper FP66, which is specifically designed for mulch production and coloring. We watched the process at one of two mulch yards owned by Dave and Kris Johnson of Helman, Wisconsin.

As Dave loaded the hungry Rotochopper with a CAT 1120C, their Rotochopper, now in its second year, gave the mulch a second grind, then colored it, conveyed it below a powerful electromagnet, and smoothly produced a rapidly growing pile of evenly colored red mulch. "Actually," remarked Ed Feyer, who was assisting on the ground in the two man operation, "it can take longer remove the hoses, move the Rotochopper, and set it up to start a new color of mulch than to do the actual coloring."

"Dave and Ed are wearing communication helmets, and Dave has a remote control in the cab," explained Kris, Dave's wife and co-owner of Johnson Ops, a tree care, land clearing, and mulch producing company. At present, Ed, on the ground, was moving the siphon from barrel to barrel of colorant as each emptied, and adjusting the colorant/water mix by pushing buttons on the side of the Rotochopper. "A remote control for the colorant mix is also available, and we hope to eventually purchase one," explained Kris.

Coloring mulch takes water — lots of it! Hence Johnson Ops' purchase of a tanker truck that can haul 6800 gallons, which needed to be refilled part way through the morning! "We can fill the truck at our shop in about half an hour using city water," explained Kris. That water is, of course very clean, but the Johnson's learned at a Rotochopper school last spring that even pond water can sometimes be used.

A new purchase this year, "at least new to us," Kris smiled, was a Peterbilt 379 tractor, used to pull the heavy tanker from mulch yard to shop for water refills.

The Johnson's don't grind mulch too far ahead.

Johnson Ops prefers Color Magic from BASF. "Our best selling colors are dark brown, red, and gold, although our overall best seller is still natural, undyed mulch," Kris explained. "We went through 30 barrels of Color Magic last year, and this year we hope to double that."

Kris has experimented with Color Magic's specialty bright blue and green shades as well. Last year she had a green colored mulch strip along one side of the mulch yard that looked like grass (but did not need to be mowed!) "There would be a demand



Dave and Kris Johnson, co-owners of Johnson Ops Tree Care, pause in the midst of a busy workday to stand in front of their Rotochopper FP 66, purchased in 2016 to produce colored mulch. About half of their mulch is now sold colored.



Dave Johnson and employee Ed Feyen move the hose that connects the 6800 gallon water tanker to colorant mixing tank. The recently purchased Peterbilt 379 tractor will pull the tanker to their shop for refilling.

for these colors in our area. However, for the green and blue to show up well, we would need a separate, consistent supply of lighter colored wood, like pine and ash, and we don't have that," Kris noted.

The Johnson's started in business as certified arborists, climbing trees to prune limbs. Like many tree care businesses, their operation morphed into mulch production almost by necessity. Producing mulch was a way

of making a profit on their scrap wood. About 50 percent of the wood they grind into mulch is from their own tree service and land clearing, and the other 50 percent is from seven or eight other area tree service companies. Johnson Ops recently have begun to charge a tipping fee to cover the time and labor involved in handling that wood.

"We're currently clearing three acres of land for a parking lot. We will clear up to 10 acres, as long as it is close by. We're in a growing area. For cutting trees and piling them on the ground, we use our CAT 314 excavator with a grapple saw. For large jobs, we take the Rotochopper to the site for the initial grinding." Stumps and large trees are sometimes pre-split with a spiral splitter, resembling a large screw, attached to a skid steer. "For smaller jobs, (the company hires multiple crews with five to a crew), we use a Vermeer 1800 chipper. It's simpler to truck already chipped wood back to our mulch yards. Then the Rotochopper gives it a second grinding just before it colors the mulch."

Johnson Ops does not need to advertise. "We get all the business we can handle from current customers and referrals," noted Kris. "I'm not the cheapest tree care service in the area," she added. (Kris makes estimates for jobs, as well as working full time in the business in many, many capacities.) "Because my husband and I are certified arborists, and we now hire three certified arborists, we have earned a reputation for knowing how to do things right."

The Johnson's don't grind mulch too far ahead. "Mulch will deteriorate if it sits too long. We were out of colored mulch when we started the Rotochopper this morning. We usually color mulch about every two to three weeks." The large mountain of wood chips in their Helman yard had accumulated over a relatively short period of time. The Johnson's keep careful track of such things.

Johnson Ops' target market is selling mulch wholesale to landscapers. "Our truck can deliver and dump 25-cubic-yards at a time." But like many successful businesses, Kris and Dave are willing to go the extra mile to load a scoop or two onto the pickups or trailers of homeowners who show up at the lot. "I don't turn customers

away," said Kris. John Ops even works several days a week through the frigid Wisconsin winters, accommodating homeowners with removal of large trees when the ground is frozen, so there is less damage to their lawns.

Their attitude toward customer service, their emphasis on quality, the fact that both Kris and Dave are willing to work hard and also to work "smart," plus their astute equipment choices, have propelled their small tree care business, started literally from scratch in 1999, to the large, fully equipped, multi-faceted, successful business Kris and Dave Johnson co-own today.

Find out more about Johnson Ops by visiting: www.johnsonops.com



Ed Feyen, checks a handful of finished mulch for particle size and color. The cross belt magnet removes any metal contaminants before the mulch is conveyed to the finished pile.



Kris Johnson, co-owner of Johnson Ops Tree Care stands in front of their Rotochopper FP 66, purchased in 2016.

New Vermeer WC2500TX whole tree chipper packs power in compact design

PELLA, IOWA — Vermeer has extended its whole tree chipper product line with the introduction of the WC2500TX tracked whole tree chipper. The WC2500TX offers

the same performance and compact design as the recently released WC2500XL whole tree chipper by Vermeer, but is equipped with a tracked undercarriage to aid in ma-

neuverability in the woods and on tough landclearing sites.

Versatility

The WC2500TX boasts a compact design

and packs a 600 hp Tier 4 Final engine to meet jobsite production demands. There is also a Tier 3 engine option for countries that have not adopted Tier 4 emission regulations.

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The new chipper can be equipped with either the microchip drum that produces chip sizes between 1/8-inch to 5/8-inch, or the macrochip drum that produces chip sizes between 5/8-inch and 1-1/4-inch. The knife setup is quick and simple with knife position being set by two bolts — no babbitting needed, which makes changeout on job sites easy.

Areas of high-wear material flow on the machine — such as the drum, discharge chute, cutter housing and infeed conveyor floor — are designed with replaceable, bolt-in wear parts to help extend the life of the machine.

“The release of the WC2500TX continues to solidify our presence in the biomass and land-clearing markets,” says Matt Hutchinson, Vermeer product manager. “The versatility of the tracked undercarriage, now gives us all-terrain capability, with great traction and flotation in various ground conditions. The 600 hp Tier 4 Final chipper can rapidly fill a trailer with properly sized chips, or efficiently broadcast material out over a remote landclearing site, depending on how you configure the drum.”

Accessibility

The 20-inch high-mount tracked undercarriage makes this a fully mobile unit, allowing operators to efficiently and effectively move the machine around jobsites without the need for additional support equipment. The D4 undercarriage is designed for tough jobsite conditions with high-mounting structures for nearly 29-inches of belly clearance and rising chain rollers for material cleanout. The tracks can be single or double grouser depending on the terrain of your operation.

A remote control provides certain real-time machine performance data to aid the operator in maximizing productivity through monitoring and adjusting the chipper's settings. The operator can engage and disengage the clutch as well as control the trip meter, EcoIdle engine control system, the chute, tracks and work light functions from the remote.

Exclusive technology

Like other whole tree chippers in the Vermeer lineup, the WC2500TX whole tree chipper is equipped with proven technologies including SmartCrush, SmartFeed and EcoIdle system.

With SmartCrush technology, the machine can

automatically increase down pressure when difficult material enters the cutting drum and adjusts variable-speed dual-infeed conveyor chains. This allows operators to concentrate on loading the machine, and not pushing the materials through.

SmartFeed helps increase productivity and reduces the strain on vital engine parts. The patented feedsensing control system monitors engine rpm and automatically stops or reverses the feed roller and infeed conveyor when feeding larger, hardwood materials. SmartFeed

also senses feed roller jams and responds by automatically shifting material back and forth.

The operator can select the EcoIdle engine control system function, which automatically lowers engine speed to 1400 rpm if no material has been chipped for

30 seconds. Engine speed automatically increases if the feed roller climbs onto new material or the engine detects a change in loading.

Visit www.vermeer.com to learn more about Vermeer equipment or contact your local Vermeer dealer for an equipment demo. ■



The D4 undercarriage is designed for tough jobsite conditions with high-mounting structures for nearly 29-inches of belly clearance and rising chain rollers for material cleanout.

Photo courtesy of Vermeer

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Bandit's lineup of skid steer loader attachments available

Bandit Industries, Inc., has expanded its line of skid steer loader attachments to include the model SA-25, a hydraulically powered stump grinder attachment that operates off a loader's existing high flow hydraulic systems. The SA-25 features a massive 24.5-inch diameter Revolution cutter wheel, the same size cutter wheel found on some of Bandit's largest self-propelled stump grinders.

The model SA-25 joins Ban-

dit's already robust lineup of skid steer loader attachments that includes the Bandit Stump Gun vertical stump grinder and the model 60FM and model 72FM forestry mulchers. All Bandit attachments bring the power and productivity of a Bandit to the versatility of a skid steer loader.

"Skid steer loaders are already on the job all over the world," said Jason Morey, Bandit sales manager. "Adding a model SA-

25 or Stump Gun stump grinder makes quick work of stump removals in land clearing, right of way or construction jobs. And a model 60FM or 72FM can turn your skid steer loader into your most productive mulching machine."

Learn more about Bandit's line up of skid steer attachments and other wood processing machines at www.banditchippers.com or by calling 800-952-0178. ■



The SA-25 features a massive 24.5-inch diameter Revolution cutter wheel.

Photo courtesy of Bandit

Filter kits now available for Kolberg-Pioneer mobile equipment

YANKTON, SD — Kolberg-Pioneer, Inc. (KPI), has released new filter kits for all mobile equipment.

The new filter kits will further improve engine performance in asphalt and other dusty environments. "Our equipment is well-suited for RAP applications, these filters allow us to build on that strength for even better performance," says Tim Harms, product manager for crushing and screening products.

The filter kits cover all access doors and openings. They can be easily retrofitted to any model and serial number. The filter media is easily replaceable using a simple retention system with positive locking pins and clips. The media can also be purchased in bulk.

To learn more about these kits or Kolberg-Pioneer mobile equipment, contact Tim Harms. Tim can be reached at timharms@kolbergpioneer.com. For more information about KPI-JCI and Astec Mobile Screens visit www.kpijci.com. ■



The filter kits cover all access doors and openings.

Photo courtesy of Kolberg-Pioneer, Inc.

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8TH Asphalt SHINGLE RECYCLING FORUM

OCTOBER
17-19, 2017

The Westin
Cincinnati
Ohio

The 8th Shingle Recycling Forum, the biennial event that brings together all stakeholders in the growing asphalt shingle recycling industry, will take place October 17-19, 2017 at the Westin Cincinnati. The event will include excellent presentations from industry experts and tour of a top-notch shingle recycling facility and a hot mix plant using the RAS. Anyone interested in shingle recycling, including state DOT officials, recyclers, asphalt plant operators, and road pavers, should plan on attending this event organized by...



More event information
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HOTEL INFORMATION

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Rooms: \$189/night

Pettibone hits peak lift height with Extendo 1157B telehandler

BARAGA, MI — The Pettibone 1157B is the highest reaching telehandler in the company's Extendo product line. Featuring industry leading hydraulics and engineered for efficient performance, the 1157B offers excel-

lent lift capacity for a wide range of material handling jobs.

Delivering a maximum load capacity of 11,000-pounds, the Extendo 1157B provides forward reach up to 42-feet, 1-inch, and an outstanding maximum

lift height of 57-feet. Single joystick, pilot operated controls allow for smooth control of all boom and auxiliary hydraulics. For operation in tight areas, the 1157B offers four-wheel, two-wheel and crab steering modes and has

a turning radius of just 12-feet, 6-inches. The unit is exceptionally powerful, yet compact enough to fit under an 8-foot doorway.

The 1157B is powered by a fuel efficient, 117 hp Cummins QSF 3.8 Tier

per hour.

The rugged design of the Extendo features two wide stance, heavy-duty lift cylinders with innovative automatic fork and load leveling that eliminates the need for slave cylinders. To further im-

with an adjustable suspension seat and adjustable right side armrest. A full set of gauges provide instant machine status.

The 1157B telescopic handler comes with a variety of standard fixed and side tilt carriages from



For operation in tight areas, the 1157B offers four-wheel, two-wheel and crab steering modes and has a turning radius of just 12-feet, 6-inches.

Photo courtesy of Pettibone



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4 Final turbo diesel engine, featuring electronic control and protection with SCR after treatment. A Parker IQAN-MD3 display provides instant engine and after treatment diagnostics. The machine's fully modulated Carraro powershift transmission offers four speeds, forward and reverse. Maximum travel speed for the 1157B is 20 miles

per hour. The rugged design of the Extendo features two wide stance, heavy-duty lift cylinders with innovative automatic fork and load leveling that eliminates the need for slave cylinders. To further im-

prove load stability, the 1157B offers 24 degrees of frame sway (12 degrees left and right of center) and is equipped with a rear axle stabilization system. The unit is also outfitted with standard foam filled tires. The operator cab is built to provide outstanding visibility at any boom position. Engineered with comfort in mind, the Extendo also comes

48- to 72-inches, and several optional attachments are available — including utility buckets and pallet, lumber and block forks. Other optional equipment includes light packages, an enclosed, climate controlled cab, and several others.

For more information call 906-353-4800 or 800-467-3884 or visit www.gopettibone.com. ■



Ask the Grinder Guy

by Dave Whitelaw

The GrinderGuy says buy now, save thousands!

Whether you know it or not, all of our grinder engines must be Tier 4 emission compliant by the start of January, 2018. For the past few years the State of California and some Cities around the Country have been specifying Tier 4 engines. These new engines will emit less unburned fuel and overall emissions reducing the pollutants being put into our air. But all this emission control is not free.

Grinder and Chipper Companies have been spending hundreds of engineering hours making these new engines fit into their current models. While these engines and their horsepower are the same as previous models, their footprint can be nearly twice the size of the previous models because of all the emission control equipment added onto them.

So what does this mean to you?

This means the cost of Grinders and Chippers are going up substantially.

Grinder chassis and engine compartments need to be extended and expanded to accommodate these engines. In addition, the price of a 1000 horsepower engine can increase as much as \$75,000. What do you get for that extra \$75,000? As far as I am concerned nothing but more cost and more maintenance.

All these emission filters and recirculators will need changing, cleaning and replacing. Add to it the addition of the DEF Fluid needed to run with the diesel fuel, maintenance costs are increasing.

So at \$75,000 for a 1000 horsepower engine, that would be nearly

\$1,500 a month at a five-year term loan. \$1,500 a month pays for a decent wheel loader purchase amongst 100 other things.

So what do you do?

Get with your Accountant soon. See if you can use an additional write off this year.

If you were planning on getting another year out of your grinder and purchase new in 2018, make the move to purchase in 2017.

While we have until the start of 2018, Manufacturers do not want to get stuck with Tier 2 or 3 engines come 2018, so their previous generation engines inventory may deplete prior to 2018 and they will only have Tier 4 engines available. So do not delay your purchase until later in 2017.

With increase in engine price and

potential increase in machine chassis costs, some grinders may increase \$100,000 over the previous pricing. This could potentially make a customer unable to be financially approved for a Grinder Loan based on the increased cost over previous models.

I am assuming as all engines being manufactured are Tier 4 and production numbers increases the price should start reducing, but that's no guarantee. Start looking hard at the condition of your grinder and at your bottom line to date and make a decision to see if it is worth pursuing a purchase this year.

As always, good luck!

Questions?

Dave Whitelaw, GrinderGuy
grinderguy@askthegrinderguy.com

Bunting® Magnetics Co. appoints Bill Wagner CFO



Bill Wagner, new CFO for Bunting Magnetics.

Photo courtesy of Bunting Magnetics

NEWTON, KS — Bunting® Magnetics Co., the leader in magnet and magnetic equipment design, manufacturing and distribution, today announced the appointment of Bill Wagner to the company's executive leadership team as the Chief Financial Officer. Wagner brings two decades of experience to Bunting Magnetics, including an extensive background in accounting and finance in the manufacturing sector.

Wagner will oversee financial reporting, budgets, accounting and human resources for all Bunting Magnetics divisions: Bunting Magnetics Co. (Newton, KS); Bunting's Magnet Materials Division, including its e-commerce site buymagnets.com (Elk Grove Village, IL); Magnet Applications, Inc. (DuBois, PA); and Bunting Magnetics Europe (Berkhamsted, England, including the company's recent acquisition of Master Magnets Ltd. in Redditch, England).

"Bill will be an invaluable

asset and contributor to our exceptional management team," said Bob Bunting, president & CEO, who made the announcement. "He brings the financial management and background Bunting Magnetics needs as we continue to advance the global growth, profitability and strategic acquisitions of our company."

Based in Newton, KS, Wagner draws on over twenty years of experience in accounting, budgeting, forecasting and analysis. Most recently, he was Chief Financial Officer

at Physicians Development Group/Axiom Healthcare, a developer/operator of world-class senior healthcare facilities. His experience also reaches into manufacturing as the Assistant Corporate Controller for Spirit Aerosystems, a manufacturer of aerostructures for both commercial and defense customers. There, Bill managed all accounting functions for the Wichita, KS site as well as consolidations for the entire company including its worldwide locations.



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SEP 11

IAAP Golf Outing

Panther Creek Country Club and Piper Glen Golf Club, Springfield, IL. For more information and to register visit www.iaa-p-aggregates.org/golf.htm

SEP 11 - 13

Safety Leadership Conference

The Hilton Atlanta, Atlanta, GA. For more information visit <http://safetyleadershipconference.com/slc17/public/enter.aspx>

SEP 15 - 16

NDA Fall Board Meeting

Portland, Oregon. For more information visit <http://tinyurl.com/y897e7tl>

SEP 18 - 20

E-Scrap 2017 Conference

Omni Orlando Resort, ChampionsGate, Orlando, FL. For more information visit www.e-scrapconference.com

SEP 19 - 21

46th MSC Annual Meeting

Marriott Renaissance Hotel, Nashville, TN. For more information and to register visit <http://munchandsoilcouncil.org/meetings.php>

SEP 21- 23

IMPACT Leadership Group Conference

Griffin Gate Marriott Resort, Lexington, KY. For more information and to register visit <http://tinyurl.com/yaptave8>

OCT 11 - 13

Paving for Performance: Designed to Perform Conference

JW Marriott Buckhead, Atlanta, GA. For more information visit <http://tinyurl.com/y799oxlp>

OCT 16 - 19

ARRA Semi-Annual Meeting

Minneapolis, MN. For more information visit www.ara.org/event/2017-ara-semi-annual-meeting

OCT 17 - 19

8th Asphalt Shingle Recycling Forum Program

The Westin Cincinnati, 21 E 5th St., Cincinnati, OH. For more information and to register visit www.shingleeerecycling.org or contact the CDRA atinfo@cdrecycling.org

OCT 25 - 26

Waste & Recycling Expo Canada

Niagara Falls, Canada. For more information visit <http://tinyurl.com/ms8cfaw>

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Overview: Morbark® Pronar trommel screen and 3400XT Wood Hog



Morbark's Amy McWhirter, details the features and benefits of the Morbark 3400TX Wood Hog tracked horizontal grinder during CONEXPO-CON/AGG 2017.

by Jon M. Casey

CONEXPO-CON/AGG 2017 in Las Vegas, NV, was the site of the introduction of new equipment to the marketplace for many exhibitors, especially Morbark®, LLC. This year, tens of thousands of industry professionals enjoyed the opportunity to shop for new products like the Morbark® Pronar MPB 20.55 trommel screen, or Morbark's 3400XT tracked horizontal "Wood Hog" grinder, both introduced during the first day's events.

According to John Foote, Vice President of Sales and Marketing for Morbark, their new trommel is a natural fit to the Morbark equipment line. Until now, Morbark has not offered a screening unit for wood waste material. With the addition of the new trommel line, producers can now look to Morbark dealers for a trommel screen supported by Morbark's quality dealer network, one that currently features Morbark grinders and slow-speed shredders.

Foote said Morbark began collaborating with Pronar a little more than one year ago. He said that Pronar is a Polish manufacturer of farming and municipal equipment that has been in business for more than 30 years. Together, their partnership has given Morbark a proven line of trommel screens, available as either wheeled or tracked units. More importantly, this new line features several innovations that make using and servicing their trommel quicker and easier.

During a "walk-around" of the new unit, Amy McWhorter, Morbark spokesperson, enumerated several features of the new trommel line. She noted that the chain and sprocket drive, and a hor-

izontal drum design, provides more efficient performance compared to conventional rubber-grip wheel designs. The spiral flighting design inside the drum, results in less material spearing with a more consistent particle size. She said the MPB trommels are available in four model sizes including the 14.44, the 18.47, the 20.55 and the 20.72.

Ease of access and serviceability is apparent with the wide-opening doors that provide quick and easy drum changes. Drum changes are routinely accomplished with only a skid steer loader. The engine and

hydraulic system is mounted on a pull-out frame. This gives technicians ground-height service access to the CAT Tier IV diesel engine and associated components. These trommels are also available with an electric motor for producers who are looking for a unit that will provide lower operating costs than a diesel powered unit and one that operates more quietly.

On the 20.55 model, the 6.5 cubic-yard infeed hopper is outfitted with a hydraulic tipping grid for removal of large objects to help prevent damage to the trommel drum. Replacement drums in a variety of screen opening sizes and drum thicknesses are available to meet the recycler's specific needs.

3400XT Wood Hog

Morbark officials also unveiled their new 3400XT Wood Hog tracked horizontal grinder at CONEXPO-CON/AGG this year. In an earlier statement, Michael Stanton, Morbark Director of Industrial Sales, indicated that Morbark listened to customer feedback when they developed this all-new model. "The result is that we were able to provide the features our customers want and the versatility they need, while staying true to our proven technology."

One of the most important features of the 3400XT is its standard width of 8'4" (2.53 m) making it within the legal transport width in any country, no matter which engine is used. This model accommodates engines from 540 to 800 horsepower (402 to 596 kW), so it is ideal for a broad range of applications in a



The Morbark® Pronar MPB 20.55 trommel screen is a recent addition to the Morbark product line, introduced at CONEXPO-CON/AGG 2017.

wide variety of markets worldwide.

Like all of Morbark Wood Hog models, the 3400XT also is available with electric power. "The size of the 3400XT allows the same model, using a broad range of engines, to be configured for multiple applications and global markets without additional design considerations," said Stanton.

He said customer feedback suggested more operator-friendly features on the Wood Hog including the design of the infeed bed and the maintenance platform. The infeed bed is an additional 24 inches (60.96 cm) longer with sloped sides. This configuration improves operator sight lines for more efficient loading of material.

A removable infeed chain return floor is standard on the 3400XT. This allows excess material to fall away to minimize the wear on the floor, bed chain and inserts. This is particularly useful in land-clearing or other applications where the material can be dirty. The variable-speed infeed system consists of one 34-inch (86.36 cm) diameter top compression feed roll; a direct-driven internal planetary drive with no chains and sprockets for lower maintenance, more torque and better durability; and four strands of WDH-120 chain in a staggered configuration.

With a new extended platform, it will be quicker and easier to perform maintenance on the machine when needed. Engineers reconfigured the area between the hood and the engine to provide an additional 12 inches (30.48 cm) of working space. This allows for better access to components for general maintenance or for changing screens.

Morbark's proven and exclusive driveline protection system is standard on all Wood Hog models. The externally adjustable, breakaway torque limiter helps to protect the driveline and hammermill from catastrophic damage caused by contaminants. The 3400XT is available with either Strickland or CAT undercarriage options. While the first unit built is a tracked unit, this model can be manufactured in a trailer or stationary unit as well (3400X).

The remote-mounted radiator and oil cooler have independent reversing fans. The 3400XT is equipped with the Morbark Integrated Control System — or MICS. The ultimate diagnostics tool and control system, this allows the operator to automatically adjust feed rates and monitor pressures and feed wheel position to maximize production and engine efficiency. New smart device apps allow you to connect to your machine using your phone or tablet Bluetooth. It also allows you to connect your machine directly to Morbark, so Morbark personnel will be able to view and edit your machine's settings to program or to send you updated programming.

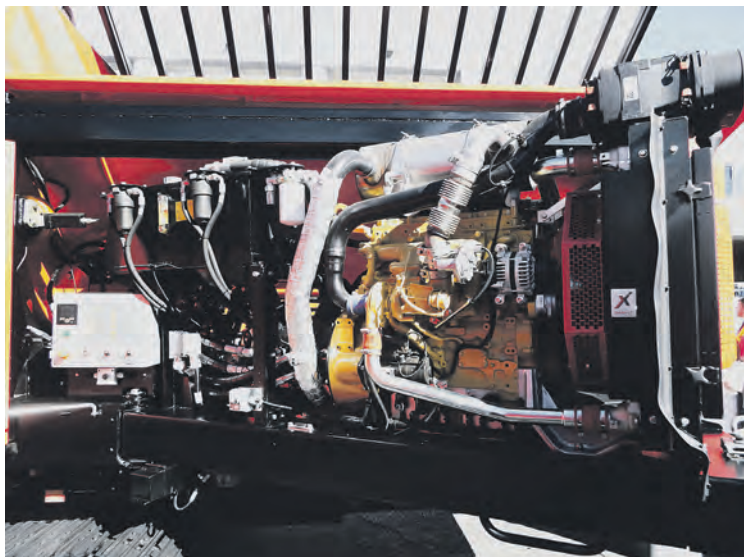
Other standard features include an 11-horsepower (8.2 kW) air compressor for general maintenance and changing inserts; a self-contained rod puller for changing rods in the hammermill; and a magnetized end pulley with collecting slide tray for removal of ferrous metals. For more information on the Morbark Pronar trommel screen, or the 3400XT Wood Hog grinder, visit www.morbark.com.



Morbark introduced their new 3400XT Wood Hog horizontal grinder along with the new Morbark Pronar Trommel line.



The pullout engine platform frame gives service technicians easier access to the engine and hydraulic systems.



Left: A CAT 97 HP engine powers the Morbark Pronar MPB 20.55 trommel screen.

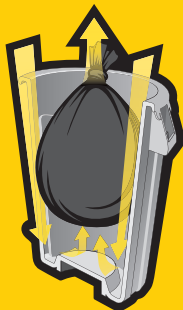


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