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ROAD TO SUCCESS

A PUBLICATION FOR AND ABOUT ROAD MACHINERY LLC CUSTOMERS

GROUND BREAKERS CONSTRUCTION INC.

Lebec, California, subcontractor
delivers quality grading,
utility projects on time
and on budget



Curtis Martin,
Owner

A MESSAGE FROM ROAD MACHINERY



Sloan Brooks



Dear Valued Customer:

Finally! After years of short-term resolutions, Congress passed a comprehensive, multi-year transportation bill, and President Obama signed it into law. Known as the FAST Act, the bill provides five years of relative certainty to highway, bridge and other construction industries.

The FAST Act should contribute to an already positive construction industry outlook. You can read more about the FAST Act in this issue of your Road Machinery Road To Success magazine. Also featured is Komatsu's newest large construction wheel loader, the WA600-8. It has a Tier 4 Final engine and a new standard bucket that provides increased efficiency in material movement.

As you know, Tier 4 engines require regeneration to reduce emissions. There are different types of regeneration, and each has specific steps that must be taken to complete the process. It's vital that operators know what to do when that situation arises, so make sure to check out the article on proper regeneration.

One main component of emissions control in Komatsu's larger construction machines is the Komatsu Diesel Particulate Filter (KDPF), which is where regeneration occurs. The Komatsu CARE program covers two KDPF exchange filters on eligible equipment in the first five years, at suggested intervals of 4,500 and 9,000 hours. It also provides complimentary scheduled maintenance for the first 2,000 hours or three years on Tier 4 machines. A Road Machinery technician will perform all of the work, in addition to a 50-point inspection at each service interval. If you have a Tier 4 machine, you can be sure that we'll contact you when a service is due and schedule it at a time and place convenient for you.

Our goal is to minimize your downtime, which is essential during the busy construction season. We hope you have plenty of work on the books. We're here to help you get it done as productively, efficiently and cost-effectively as possible.

If there's anything we can do for you, please call or stop by one of our branch locations.

Sincerely,
ROAD MACHINERY LLC



Sloan Brooks
President & COO

**Good news
on the
transportation
front**



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IN THIS ISSUE

GROUND BREAKERS CONSTRUCTION INC.

See how this Lebec, California, subcontractor is delivering quality grading and utility projects on time and on budget.

HANDS-ON EXPERIENCE

Ride along with Road Machinery customers as they take a first-hand look at the full line of *intelligent* Machine Control (iMC) products during Komatsu's Las Vegas iMC event.

INDUSTRY OUTLOOK

Read about the \$305 billion Fixing America's Surface Transportation (FAST) Act, the first long-term highway, bridge and transit spending measure in more than a decade.

GUEST OPINION

Pete Ruane, ARTBA President and CEO, has mixed reactions to the FAST Act. Check out his outline of the legislation's positives and negatives.

PAVING PRODUCTS

Learn about Wirtgen's AutoPilot stringless system, designed to make slipform projects more efficient.

PRODUCT IMPROVEMENT

Komatsu's new Dash-8 construction/quarry loaders feature high breakout force and lower fuel consumption. Read about them inside.



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GROUND BREAKERS CONSTRUCTION INC.

Lebec, California, subcontractor delivers quality grading, utility projects on time and on budget



Curtis Martin,
Owner

Curtis Martin doesn't remember a time when excavation wasn't a part of his life. He grew up working for his father's business in Pennsylvania, and when that business expanded to California, Curtis went too. For a while, he traveled back and forth between the two states, and in 2004, as his father was closing up shop, he decided to buy some of the equipment and started Ground Breakers Construction.



Milford Martin,
General Foreman

"I love construction, and I couldn't see myself doing anything else," said Curtis. "I, along with five other guys, started out doing mostly residential grading work. I advertised heavily early on, but eventually our work mainly came from word-of-mouth referrals, which led to a large percentage of our work coming from repeat customers."

Ground Breakers Construction's customers are general contractors located within about an hour of the company's home base in Lebec, California, including Kern and Los Angeles counties. The company offers grading and wet utility installation, often as a package. Curtis estimates that about 75 percent of the company's projects are public, and the balance are private.

"That's changed considerably since we started," recalled Curtis. "Now, we like to offer larger grading and utility installs to general contractors. We bid to them, and for about half of the projects, we perform both the grading and the utilities, and on the other half of the projects, the contractors just want one or the other. Either way, our goal is to deliver a quality project that's properly staffed and executed, so that it's done safely, on time and on budget."

Completing projects with Komatsu equipment

Key staff members include Curtis' brother Milford, who is a General Foreman and oversees a couple of crews. Longtime employee Marvin Putt is also a General Foreman. Others include COO Marty Siebe, Mechanic Phil Yoder and Bookkeeper Mitchell Alvarez. In total, Ground Breakers Construction employs about 15 people full time.

"I would describe our staff as young, with a collective vision to provide the highest level of customer service," said Curtis. "They take ownership in its success, which has helped us grow, and, in turn, take on larger projects. They deserve a lot of credit for where we are today."

Ground Breakers Construction usually has three to four projects going at any time. It has worked on several commercial sites, such as one in Bakersfield, where the company installed about 6,000 feet of sanitary, storm and water pipe, as well as fire hydrants.

At Cal State Bakersfield, it put in about 10,000 feet of utilities for new student housing and moved about 20,000 cubic yards of dirt to build a road. It installed a similar amount of utilities on a job in Acton, as well as excavated about 60,000 yards of dirt.

For moving pipe and backfilling trenches, Ground Breakers Construction uses Komatsu WA320-7 wheel loaders.





Ground Breakers Construction uses a Komatsu PC210LC-10 excavator equipped with a Topcon GPS system to dig utility trenches.

Ground Breakers Construction graded the Cal State project with a Komatsu D61EXi-23 *intelligent* Machine Control dozer that it rented from Road Machinery LLC. Ground Breakers rented a D39EXi-23 for the commercial project in Bakersfield. Both augmented Ground Breakers Construction's fleet of Komatsu excavators, which range in size from PC50s to a PC210LC-10 equipped with a Topcon GPS system. The company also owns two wheel loaders, including a Tier 4 WA320-7.

"My dad bought a Komatsu excavator in the early 1990s after being loyal to a competitive brand," said Curtis. "It was a great machine, so after that we leaned toward Komatsu. We found the operator comfort, the productivity and the feel of the machines superior. It's still that way, which is a big reason we buy and rent Komatsu equipment."

"Komatsu's technology stands out too, and that's really on display with the intelligent machines," added Milford. "The dozers save us time and money because they are accurate and keep us from overcutting. We like that the grade-control components are integrated, so we don't have to deal with cables or masts. We recently demo'd an intelligent excavator, and we saw similar attributes that will lead to significant savings."

Ground Breakers Construction works with Road Machinery Sales Account Manager Adrian Garza for buying and renting Komatsu equipment. "Adrian is great about finding us equipment, and the company is good about having parts on hand when we need them," said Milford. "We appreciate that Road Machinery and Komatsu provide complimentary scheduled maintenance on Tier 4 machines. Road Machinery tracks the



Ground Breakers Construction has rented Komatsu *intelligent* Machine Control dozers, including this D39EXi-23 it used on a project in Bakersfield. "The dozers save us time and money because they are accurate and keep us from overcutting," said General Foreman Milford Martin.



(L-R) Ground Breakers Construction Owner Curtis Martin and General Foreman Milford Martin meet with Road Machinery Sales Account Manager Adrian Garza. "Adrian is great about finding us equipment, and the company is good about having parts on hand when we need them," said Milford Martin.

machines, contacts us when a service is due and comes to a jobsite to complete it. It's a great value and ensures service is done on time."

Building a legacy

Curtis believes growth will continue to be slow and steady, with projects getting larger in Ground Breakers Construction's future. He also sees the same core group of employees staying on board long term.

"Our calling card has always been taking care of the customer and getting too big takes away our ability to do that," said Curtis. "Our legacy is being built one quality project at a time. We want that to continue, so we won't do anything that jeopardizes our ability to deliver what our customers need, when they need it." ■

D61PXi-23



PUSHING AHEAD WITH *INTELLIGENT* MACHINE CONTROL

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HANDS-ON EXPERIENCE



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UP CLOSE AND PERSONAL

More than 300 customers demo Komatsu's complete *intelligent Machine Control* lineup in Las Vegas

Komatsu introduced its revolutionary *intelligent Machine Control* (iMC) to the construction industry in June 2013, when it debuted the D61PXi dozer. Since then, Komatsu has equipped its D39, D51, D65 and D155 dozers and PC210LCi excavator with the technology. To showcase all of the new models and technology available, Komatsu hosted an iMC event in Las Vegas to give customers hands-on experience with the newest additions to the iMC line.

More than 300 customers attended the event, which began with a 30-minute introduction from Komatsu Product Manager Ron Schwieters. He explained the numerous cost-effective benefits of the iMC machines and highlighted the technical nuances of the system. Attendees were then able to demo the entire iMC line of products.

"We are trying to advance an understanding of what using automatics can do for you as contractors," said Schwieters in his introduction. "As you're out there, we want you to see how you could use certain aspects of the machines in different applications, and how they could make you more productive."

The event provided an opportunity for current iMC customers to get a better understanding of the technology and how it can help their companies become more efficient. It also gave new customers a chance to see exactly what the machines can do.

"Komatsu found that iMC machines can help a company be up to 13-percent-more productive," said Schwieters. "But if you learn something here that can help your

Continued . . .



Chris Phelps (left) and Terry Lee of Sundt Construction attend Komatsu's iMC Event in Las Vegas. "I like the mast-less dozers," Phelps commented. "Instead of climbing onto the blades, the GPS is integrated into the machine. It saves time and money, and it's safer."



Ron Schwieters,
Komatsu Product
Manager



(L-R) Road Machinery Sales Rep Adrian Garza visits with Kyle Smart-Johnston and Dustin Smart of Floyd Johnston Construction.

Attendees at the iMC event wait for their opportunity to demo a PC210LCi, the world's first iMC excavator.



▶ VIDEO

Road Machinery customers test-drive new iMC machines

... continued

(L-R) Eddie Axner Construction's Keith Foster, Raymond Axner and Jonah Taylor meet with Road Machinery's Eric Von Schlieder.



company become even 5-percent-more productive, that still translates to a lot of savings."

Schwieters also hinted to the release of the newest iMC products. "This technology is scalable to additional models." ■



Attendees listen to an information session during Komatsu's iMC event in Las Vegas.

A customer test drives a Komatsu *intelligent* Machine Control (iMC) dozer. Komatsu's full iMC product line was on display at the event, which took place in Las Vegas.



Greg Mohl of Site Utilities said, "What strikes me the most about the PC210LCi is its user-friendliness, the size of the screen and how simple it is to operate."



Hat Creek Construction's Weston Hutchings said, "I'm excited to see a machine with GPS built-in, so we don't have to attach and remove the aftermarket equipment every day."



Raymond Axner,
Eddie Axner Construction



Dallas Peterson, Owner,
Saharo Contracting



Leonard Savala,
Savala Equipment Sales



Wes Williams,
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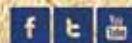
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TRANSPORTATION BILL APPROVED

President Obama signs \$305 billion FAST Act, first long-term measure passed in a decade

For the first time in more than a decade, the nation has a long-term transportation bill. Signed into law in December, the Fixing America's Surface Transportation (FAST) Act calls for spending more than \$300 billion on highway, bridge and transit projects over the next five years.

The FAST Act authorizes approximately \$207 billion for highway projects and \$48 billion for transit projects. The remaining money in the bill will go to a variety of projects for ports and railways, and provide almost \$1 billion for the National Highway Traffic Safety Administration's programs. Each state gets a 5.1-percent increase in formula funds for highway investment in fiscal year 2016, followed by annual increases to help offset projected inflation during subsequent fiscal years.

The measure is the first long-term transportation bill since SAFETEA-LU was passed in 2005 and expired in 2009. Since that time, Congress has passed several short-term,

stopgap-funding measures. The only multi-year deal during the past six years was enacted in 2013, a two-year bill known as MAP-21.

"Our roads and highways have gone without necessary maintenance and improvement through years of short-term surface transportation extensions," said Mike Acott, President of the National Asphalt Pavement Association. "This bill gives states and industry the certainty needed to move forward aggressively to improve safety, performance and drivability."

New initiatives

The FAST Act maintains much of the structure of MAP-21 with a few changes, including expanding the Surface Transportation Program into a Surface Transportation Block Grant Program. It still requires a fraction of the money to be distributed by population, and a portion must be used for pedestrian, bicycle and environmental activities.

The National Freight Program and Nationally Significant Freight and Highway Projects Program are new under the FAST Act. The first funds freight-related highway improvements. States are allocated funds by formula. With stipulations, they may obligate up to 10 percent of their freight funds for improvements to freight rail or ports.

The Nationally Significant program provides grants for highway, bridge, rail-grade crossing, intermodal and freight rail projects costing more than \$100 million that improve movement of both freight and people, increase competitiveness, reduce bottlenecks and improve intermodal connectivity. At least 25 percent of the funds must be spent in rural areas. The Secretary of Transportation will

New initiatives under the FAST Act are a National Freight Program and a Nationally Significant Freight and Highway Projects Program.





award all projects, and Congress will have 60 days to reject them by joint resolution.

The new bill is also designed to accelerate project delivery. It reduces duplication of environmental reviews and builds upon MAP-21's efforts to use deadlines to speed up the review and approval process among initiatives.

Mixed reviews

The FAST Act should be good news to Americans frustrated with driving across bridges deemed structurally deficient and congested roads that often have not been properly maintained due to lack of funding. The American Society of Civil Engineers' most recent report card gave America's overall infrastructure a D-plus. Bridges and rail received a C-plus, ports a C and roads a D.

A poll conducted by AAA found that 70 percent of Americans favored more federal spending on infrastructure. Nine out of 10 believe routine maintenance on roads and bridges is important. Roughly two-thirds support both traffic safety training programs and reducing traffic congestion by expanding lanes.

"Potholes and bad roads increase driver stress and can cause significant vehicle damage, requiring costly repairs," said AAA President and CEO Marshall Doney after the poll was released. Upon passage of the FAST Act, he noted, "It is encouraging to see Congress come together to make the compromises necessary to pass legislation of this magnitude. Millions of Americans drive every day, and they deserve a highway system that safely moves people and goods as quickly as possible."

Other industry groups had mixed reviews following the FAST Act's passage. The American Road & Transportation Builders Association (ARTBA) praised the bipartisan bill's five-year funding predictability and reduction of federal red tape for state transportation improvement programs. However, ARTBA was not completely satisfied with the bill.

"Congress and the Obama Administration again sidestepped a golden opportunity to put the federal highway and transit investment program back on solid financial footing for the long-term," said ARTBA President & CEO Pete Ruane. "(They also) fell short in providing the level of investment that would

The FAST Act authorizes approximately \$207 billion for highways and provides almost \$1 billion for the National Highway Traffic Safety Administration's programs.

Continued . . .

Creative funding key to FAST Act

... continued

result in demonstrable improvement in the overall physical conditions, performance and safety of the transportation system. At best, we will be treading water.” (For more from Ruane, please see the Guest Opinion article in this magazine.)

No gas tax increase

Most of the money for the FAST Act will continue to come from the 18.4-cents-per-gallon gas tax that was reauthorized in the new bill. The gas tax was last raised in 1993, but with rising inflation and more fuel-efficient cars, it has largely fallen short of covering annual transportation spending. That forced lawmakers to tap into general funds to make up the difference. Because the gas tax was not increased, it will not fully fund the FAST Act either.

Additional financing provisions include a requirement that the government use private collection agencies to recoup certain outstanding taxes; denying new passports to individuals owing more than \$50,000 in back taxes; the sale of 66 million barrels of oil from the Strategic Petroleum Reserve; cutting the Federal Reserve’s annual dividend payments to large commercial banks; and using money from the Fed’s rainy-day fund.

Future funding could also come from increased tolling. Congress lifted the ban

imposed 60 years ago on state tolls for existing federal interstates. Three states already have pilot programs in the works, and more are considering the option.

“The good news is that the long winter of uncertainty for state DOTs has come to an end,” said Transportation Secretary Anthony Foxx, who has been touring the country in an effort to raise awareness of surface transportation needs. “The FAST Act also takes the important step of increasing funding. Under the act, funding will go up by roughly 11 percent over five years. This is a down-payment for building a 21st-century transportation system, though it is still far short of the amount needed to reduce congestion on our roads and meet the increasing demands on our transportation systems.”

The FAST Act is about \$173 billion less than President Obama called for prior to its passage and his signing.

“This bill is not perfect, but it is a commonsense compromise, and an important first step in the right direction,” Obama said in a statement prior to signing the bill. “As we applaud the kind of bipartisan compromise (it took to pass this bill), we should also recognize that we still have work to do.” ■

While the majority of funding goes to highways, bridges and other surface transportation, the FAST Act also provides money for a variety of other projects such as ports and rail.



GUEST OPINION

MIXED REACTION

ARTBA President and CEO Pete Ruane outlines some of the positives and negatives of the new surface transportation bill

The overwhelming, bipartisan vote for passage of the Fixing America's Surface Transportation (FAST) Act shows once again that transportation infrastructure is a thread that has the capacity to bind America – whether it is red, blue or purple.

The good news is – from a public policy standpoint – there are a number of things to like about the FAST Act, including:

- Five years of funding predictability and less federal red tape for state transportation improvement programs. This, in turn, will help maintain employment; assist the public and private sectors to plan ahead; and speed up project delivery.
- A reporting process to provide more transparency and accountability. Highway users will now be able to find out how and where their federal fuel taxes are being invested in their community.
- Framework to finally start modernizing our National Highway Freight Network. All that is missing is the money to get it done right.

The flip side

Congress and the Obama Administration again sidestepped a golden opportunity to put the federal highway and transit investment program back on solid financial footing for the long-term. Five years goes by fast. In four years, state transportation departments will again be staring at a looming funding abyss.

The FAST Act also falls short of providing the level of investment that would result in a demonstrable improvement in the overall physical conditions, performance and safety of the transportation system. At best, the industry will be treading water.

Unfortunately, a large orange and black “work ahead” sign still remains standing in our nation’s capital when it comes to providing sustainable and game-changing surface transportation capital investment. The American Road & Transportation Builders Association will be there to remind lawmakers of this. ■



Pete Ruane,
President and CEO,
ARTBA

Editor's note: This is excerpted from an article by Pete Ruane, President and CEO of the American Road & Transportation Builders Association. To see the full article, visit ARTBA's website, www.artba.org.



American Road & Transportation Builders Association President and CEO Pete Ruane says the new FAST Act provides five years of funding predictability, but falls short of providing the level of investment that would result in a demonstrable improvement in the overall physical conditions, performance and safety of the transportation system.

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FAX: (928) 778-5640

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PAVING IN LESS TIME

Wirtgen's AutoPilot stringless system makes slipform projects with its SP 15 machines even more efficient

When it comes to versatility on paving monolithic profiles, Wirtgen set the standard with slipform pavers such as its SP 15 and Tier 4 Interim SP 15i models. They are true multipurpose machines that lay curb and gutter, barrier, sidewalk, V-ditch, special applications and slabs. Both can be quickly configured on-site for left- or right-side pouring, have maximum paving widths of 6 feet, and maximum barrier/parapet placement height of 4 feet 3 inches.

Wirtgen's new AutoPilot stringless paving system for poured-in-place concrete profiles – designed exclusively for its slipform pavers – has helped make those standard-bearers even more efficient. AutoPilot is a GPS-based system that ensures the highest precision and optimum efficiency, regardless of whether the job calls for straight profiles or highly complex curved paths.

"The system creates a virtual stringline, and the machine runs off that," explained Erik Smydra, Stringless Machine Control Specialist with Wirtgen America. "There are no trip points or strings to knock down or pins to set. Users can either import shapes from a CAD file or use a field rover to shoot hubs and input the data. The machine starts paving from there."

Intuitive operation, increased production

Wirtgen's proprietary AutoPilot control system gives construction companies a distinct competitive edge, because it bypasses the need to establish a digital terrain model. Programming is completed with a rover pole to capture coordinates or by simply using the jobsite plans, eliminating the need for a surveyor.

The system uses a computer that is integrated into the machine, as well as a control panel that allows intuitive operation. For course control, two machine-mounted GPS receivers communicate with an additional GPS reference station positioned on-site. For precise grade control, a laser, ultrasonic sensor or total station is used.

"It saves a significant amount of time because a crew doesn't have to come to the jobsite ahead of time to set pins and lines," said Smydra. "That makes paving any job faster and more efficient, and it especially pays for itself on tight radii with the elimination of setting all the pins necessary for those pours. Theoretically, you could shoot hubs in the morning, import the files and be paving the same day – increasing the number of feet poured compared to traditional methods." ■



Erik Smydra,
Stringless Machine
Control Specialist,
Wirtgen America

Wirtgen's SP 15 slipform paver with a GPS-based AutoPilot stringless paving system for poured-in-place concrete profiles ensures the highest precision and optimum efficiency on any job. The system bypasses the need to establish a digital terrain model.





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PRODUCT IMPROVEMENT



WA380-8



WA470-8

MORE EFFICIENT MATERIAL MOVEMENT

New Dash-8 construction/quarry loaders feature high breakout force, lower fuel consumption

Multiple machines for multiple tasks equates to higher owning and operating costs. That's why a wheel loader that can handle several applications on one jobsite is a great choice. Komatsu has numerous options to choose from, including new Tier 4 Final WA380-8 and WA470-8 models that feature high breakout force and enhancements that make them more efficient than their predecessors.

Komatsu Product Manager Rob McMahon says the WA470-8 is perfect for companies looking for a mid-sized construction/quarry loader. "The WA470-8 has an outstanding combination of stability, breakout power and tractive effort. Whether you're moving gravel, transporting pipe, charging hoppers or working with landscape or aggregate materials, it's the machine you want on your worksite. Available machine arrangements specifically adapted

for logging and waste-handling applications extend the machine's versatility.

"The wheelbase and overall width were not changed for the WA470-8, however the tip load ratings and speed of the boom-raise function was increased. This contributes to enhanced machine stability and faster cycle times," added McMahon. "Where operators and owners will particularly notice the difference is in efficiency. The WA470-8 features enhancements that reduce fuel usage as well as make the operating environment more comfortable, leading to reduced fatigue and greater production."

The WA380-8 is the smallest of Komatsu's construction/quarry loaders, but remains productive in a variety of applications.



Rob McMahon,
Komatsu Product
Manager



Craig McGinnis,
Komatsu Product
Marketing Manager

Continued . . .

Quick Specs on Komatsu's WA380-8 and WA470-8 Wheel Loaders

Model	Net Horsepower	Operating Weight	Bucket Capacity
WA380-8	191 hp	40,523-40,929 lbs	3.5-4.3 cu yds
WA470-8	272 hp	53,352-55,579 lbs	5.0-5.75 cu yds

Both new wheel loaders feature Komatsu's SmartLoader Logic software combined with a lockup torque converter that activates in second, third and fourth gears. Together, the system provides optimal engine torque for improved acceleration, hill climbing, fuel savings and a higher top speed.



Advancements make Dash-8s powerful and efficient

... continued

"With one of the highest breakout forces in its class and excellent balance, the WA380-8 is made for tough digging tasks," said Craig McGinnis, Komatsu Product Marketing Manager. "It's ideal for carrying pipe, sand and other aggregates; site cleanup and support; digging into piles; and backfilling."

SmartLoader Logic

Both new wheel loaders feature Komatsu's SmartLoader Logic software combined with a lockup torque converter that activates in second, third and fourth gears. Together, the system provides optimal engine torque for improved acceleration, hill climbing, fuel savings and a higher top speed.

The Tier 4 Final engines on the Dash-8 models are variable-geometry turbocharged and aftercooled, and they use up to 6-percent-less fuel compared to the previous Tier 4 Interim models. The engines use an advanced electronic control system to manage air-flow rate, fuel injection, combustion parameters and after-treatment functions to optimize performance, reduce emissions and provide advanced diagnostic capability.

A Selective Catalyst Reduction assembly further reduces NOx emissions using diesel exhaust fluid (DEF). Komatsu designed the machines' Diesel Particulate Filter (KDPF) and other after-treatment components in conjunction with the engine for efficiency and durability.

Komatsu's new Dash-8 Tier 4 Final loaders offer the ability to perform multiple tasks with one machine, lowering owning and operating costs. Both the WA380-8 and the WA470-8 feature high breakout force and more efficient engines that lower fuel consumption.

Enhanced operating environment

Several in-cab enhancements and features are built-in to the new Dash-8 models:

- Air-suspension, high-backed seat that softens machine vibrations for operator comfort;
- Seat-mounted electronic pilot control levers with F-N-R switch for operator convenience and reduced fatigue;
- KOMTRAX telematics system and monitor that provides key machine metrics such as KDPF status, DEF-level data and fuel consumption, as well as performance information collected and sorted by operator ID;
- Auto-Idle Shutdown to reduce idle time and save fuel;
- Auxiliary jack and two 12-volt ports;
- Seven-inch, full-color, high-resolution monitor with Ecology Guidance to support more efficient machine operation;
- Dedicated rearview monitor.

Komatsu also makes maintenance convenient with a swingout cooling fan that has wider fin spacing and a standard auto-reversing fan for easy cleaning. Gull-wing engine doors provide quick access for daily checks, and additional hinged panels at each side give fast access to regeneration components.

The Dash-8 loaders and all other Komatsu Tier 4 Final construction-sized machines – whether rented, leased or purchased – are covered by the Komatsu CARE program for the first three years or 2,000 hours. Komatsu CARE includes complimentary scheduled factory maintenance and a 50-point inspection at each service, up to two KDPF exchanges and up to two DEF tank flushes in the first five years.

"With specified labor, fluids and filters covered by Komatsu during this period, Komatsu CARE lowers ownership costs, raises resale value and improves uptime and availability," said McGinnis. "We encourage anyone looking for solid, all-around wheel loaders with excellent performance in a variety of tasks to demonstrate these new machines and see the difference for themselves." ■



WA470-8

INCREASE PRODUCTION WHILE LOWERING FUEL COSTS

- Komatsu SmartLoader Logic for optimal energy savings
- Large capacity torque converter with lock-up
- All-new cab for comfort and visibility
- Powerful 272 HP engine



I AM KOMATSU

OLANJUWON LUKIE / ASSEMBLER / NEWBERRY, SC

"Komatsu loaders are tough. The loaders I assemble here in South Carolina are built to high standards. I know because my team and I meet and exceed those standards every day. Our goal is to build you a product that will handle the jobs you throw at it and keep coming back for more. And that's why I AM KOMATSU."

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NEW PRODUCT



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PRODUCTION NUMBERS IMPROVED

New WA600-8 features larger standard bucket and increased fuel efficiency



Rob McMahon,
Komatsu Product
Marketing Manager

How do you measure enhanced performance? Komatsu's new WA600-8 wheel loader provides answers with numbers that show you can move more material with lower fuel consumption.

Komatsu optimized engine power control in the Tier 4 Final WA600-8, and improved power train and hydraulic efficiency, reducing fuel consumption up to 13 percent, compared to its Tier 3 predecessor. The loader combines Komatsu's SmartLoader Logic with an enhanced lockup torque converter that activates in second, third and fourth gears. Together, the system provides optimal engine torque for improved acceleration, hill climbing, fuel savings and a higher top speed.

Komatsu's new WA600-8 features optimized engine power control and improved power train and hydraulic efficiency to help reduce fuel consumption by up to 13 percent, compared to its Tier 3 predecessor. Standard bucket capacity was increased to 9.2 cubic yards, and Komatsu designed it to fill easier, retain material better and give operators greater visibility.

Quick Specs on Komatsu's WA600-8 Wheel Loaders

Model	Net Horsepower	Operating Weight	Bucket Capacity
WA600-8	529 hp	122,268-124,473 lbs	9.2 cu yds
WA600-8*	529 hp	126,678 lbs	10.2 cu yds

* Load-and-carry configuration with additional counterweight

Bucket capacity of the standard WA600-8 increased to 9.2 cubic yards, and Komatsu designed it to fill easier, retain material better and give operators greater visibility. A load-and-carry configuration for the WA600-8 is available with added counterweight and a 10.2-cubic-yard bucket. A new auto-dig function reduces operator effort required to fill the bucket, and Komatsu-integrated load meter data is available on the machine monitor and remotely via the Internet.

"With significant enhancements in production capacity and fuel economy, the WA600-8 is designed to maximize production efficiency in loading off-highway trucks or load-and-carry applications," said Rob McMahon, Komatsu Product Marketing Manager. "Owners and operators consistently tell us they are impressed with the machine's productivity and stability."

Increased cab comfort

The cab features a new air-suspension, high-back, heated seat that softens machine vibration. The seat's cast frame members increase strength, and seat-mounted electronic pilot-control levers add ergonomic comfort and convenience. The KOMTRAX Plus telematics system provides key machine metrics and performance information that can be accessed remotely by smart phone.

"Full rear fenders and steps with handrails at both sides of the loader add convenience for daily inspections," said McMahon. "Similar to other Tier 4 machines, the WA600-8 is covered by the Komatsu CARE program for the first 2,000 hours or three years, which further reduces owning and operating costs. Add it all up, and the savings are significant. We encourage anyone needing a production loader to check out the new WA600-8." ■

▶ VIDEO



SAVINGS BY DESIGN

PUTTING THE 'PLUS' IN DOZING

Komatsu expands innovative undercarriage design to its D85-18 models

A significant portion of dozer operating costs per hour come from undercarriage repair and replacement, so reducing wear and extending component life can make a significant improvement to your bottom line. Komatsu's Parallel Link Undercarriage System (PLUS) helps, with a revolutionary design that virtually eliminates pin and bushing turns. It is now available on the new D85EX-18 and D85PX-18 models.

Both of the shoe widths – 26-inch and 36-inch – are made for extreme service and maximum durability to provide up to twice the life of a conventional undercarriage, lowering repair and maintenance costs as much as 40 percent in certain applications. PLUS components are designed for equal wear life and are built to withstand diverse ground conditions.

"PLUS cuts maintenance costs, extends wear life and excels in high-impact, rocky conditions, as well as low-impact, sandy jobsites," said Chuck Murawski, Komatsu Product Manager, Dozers. "This leading-edge track technology has become standard equipment on all Komatsu dozer models smaller than the D85-18."

Free-to-rotate bushing

PLUS uses oil-lubricated bushings that are free to rotate, unlike fixed bushings used on conventional undercarriage systems. Links have increased wear material and depth hardness and have a strutted design for extended life and added strength. All link assembly components can be field-replaced individually, as opposed to changing an entire undercarriage system. Sprockets are segmented for simple replacement and designed to minimize material packing.

The Komatsu PLUS undercarriage assurance program covers leakage and breakage due to defects in material or workmanship for three years or 4,000 hours, whichever occurs first. Komatsu distributors can also offer supplemental wear-life coverage.

"The D85-18s are excellent construction and/or quarry machines, and PLUS enhances their value by further reducing the already low owning and operating costs that these highly efficient and productive Tier 4 machines provide," said Murawski. "We encourage anyone thinking about adding a 60,000-pound-plus dozer to their fleet to talk with their local Komatsu distributor and check out the benefits a D85-18 with PLUS can provide." ■



Chuck Murawski,
Komatsu Product
Manager, Dozers



Komatsu's Parallel Link Undercarriage System (PLUS) is now available for its large construction/quarry D85-18 dozers. PLUS eliminates pin and bushing turns, reducing undercarriage maintenance and repair costs.



CUSTOMER TESTIMONIAL



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INCREASED EFFICIENCY

If not for Komatsu iMC machines, Robcor Contracting 'wouldn't be doing dirt projects'



Rob Forman,
Vice President

For more than 20 years, Rob Forman and his wife, Corrie, moved dirt as site-development contractors. About six years ago, they shifted focus and founded Robcor Contracting, a crushing/recycling business in Sebring, Florida.

Processing old building materials into new products accounts for 85 percent of Robcor's volume of work, but the Formans recently added earthwork back into the mix. Currently, Robcor is performing mass grading/dirt work on Reunion Resorts, a 600-acre project that began in the spring of 2015 and is expected to be completed in three to five years.

Robcor Contracting Vice President Rob Forman says the crushing/recycling company would not do dirt work without Komatsu *intelligent* Machine Control equipment, including this PC210LCi-10 excavator. "The PC210LCi allows us to move more dirt, more efficiently than with a bigger machine that doesn't have *intelligent* Machine Control."

▶ VIDEO



Robcor will move millions of yards of dirt as it completes mass excavation, preps pads for construction and does finish work. To maximize efficiency, Robcor is using Komatsu *intelligent* Machine Control (iMC) dozers (a D51PXi and a D61PXi) as well as a PC210LCi-10 iMC excavator.

"If it weren't for the iMC machines, we wouldn't be doing dirt projects," said Forman. "The dozers save us so much time and money. I have run a dozer for more than 20 years, and I can't imagine going back. These are by far the best dozers I have ever run."

"The PC210LCi excavator allows us to move more dirt, more efficiently than with a bigger machine that doesn't have *intelligent* Machine Control," he added. "No matter where we excavate on a project, we are on-grade. That's amazing. It eliminates overexcavation, so the time and material savings are significant."

No staking

At Reunion Resorts, Robcor uploads 3D models of the jobsite plans into the machines and lets the integrated GPS technology take over. The company has not used a single stake on the project.

"The machines pay for themselves in the first 500 hours of operation," said Forman. "Normally, we would have to schedule layout and staking. Now, we upload a 3D model of the plans, and 45 seconds later, we're moving dirt to finish-grades. I don't see how we could compete without the iMC machines. They have made us so much more efficient and given us the ability to take on larger site projects. We wouldn't be able to do that with conventional machines." ■



PC210LCi-10

INTRODUCING THE FIRST AUTOMATED EXCAVATOR

- Auto stop improves speed and cycle times
- Auto grade assist allows precision tracking
- Depth protection prevents over-digging
- Easy touch screen controls



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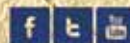
JASON ANETSBERGER / KOMATSU ENGINEER

How do you improve both excavating efficiency and precision? Managing advanced sensor types and hydraulic control logic to make life easier, the operator is automatically limited from digging below grade and assisted in quickly pulling a precise surface. The *intelligent* Machine Control system is factory installed and engineer integrated. And that's why I AM KOMATSU.

MADE WITH PASSION AND PRIDE

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Discover more

ENSURE PROPER GREASING

Graco Automatic Lubrication System now an available option on some new Komatsu equipment



Scott Ruderman,
Komatsu Marketing
Engineer



Gabe Elmhurst,
Global Market
Specialist, Graco
Lubrication
Equipment

Greasing your equipment aids in maintaining long-term component performance by reducing unnecessary wear and premature breakdown. A Graco Automatic Lubrication System on your Komatsu equipment can help ensure components are always properly greased. Systems are now available pre-installed on new machines or as a field-install kit for equipment already in production.

"We worked hand-in-hand with Komatsu's engineering department to ensure our lubrication systems meet machine requirements," said Gabe Elmhurst, Global Market Specialist, Graco Lubrication Equipment. "We took everything into consideration, including where the components are mounted, what fittings are acceptable, how hoses are routed – even where we can weld on the machine during installation. Our system functions as part of the machine itself."

The Graco Automatic Lubrication System consists of three main components. Mounted outside the machine is the G3 pump with a translucent blue reservoir that is UV protected and sealed to virtually eliminate the introduction of contaminants. A stir paddle inside the reservoir reduces separation by agitating the grease each time the pump is engaged. A ground-level-access fill port allows new grease to be pumped into the system without the need for climbing on the machine.

Modular series progressive divider valves deliver a predetermined volume of grease to the machine's lubrication points, and each can be set to a specific amount. Cycle and performance indicators aid in monitoring the movement of grease through the system and inform operators if there is an interruption in the lubrication cycle.

Operators receive both visual and audio alarms in addition to other information in real-time through the GLC-2200 controller located in the cab. It has a digital display with touchpad controls and LED lighting for simplified programming.

"Operators still need to visually inspect equipment daily to ensure everything is in good working order, but a Graco Automatic Lubrication System reduces the time needed for daily greasing and overall maintenance costs," said Scott Ruderman, Komatsu Marketing Engineer. "We encourage customers to order it already installed on new machines. If they want to add it to their current fleet of machines, it can be done easily by Graco, through a local Komatsu distributor or on their own. We worked closely with Graco to create detailed machine-specific installation manuals with simple step-by-step instructions, so regardless of who installs the kit, or where they do it, the end result is consistent." ■



The Graco Automatic Lubrication System has three main components (L-R): a G3 pump with translucent blue reservoir that is UV protected and sealed to virtually eliminate the introduction of contaminants; modular series progressive divider valves that deliver a predetermined volume of grease to the machine's lubrication points; and a GLC-2200 controller located in the cab.

TEAM EFFORT

Ken Calvert says Komatsu's new Business Solutions Group provides 'tiny solutions' with tangible benefits

QUESTION: What is the Business Solutions Group?

ANSWER: We are a team of individuals working in collaboration to provide service and support to customers, Komatsu distributors and Komatsu corporate personnel. Any one of those three can approach us with an idea, a concern, etc., and we'll tackle it in an effort to bring about a positive outcome.

The Business Solutions Group can do that because our team brings several different perspectives and experiences to the table. Some of us have been with Komatsu for several years in assorted capacities. We also have customer perspectives on board, as one team member worked for a distributor before joining the group. Another was with a large construction company. This allows us to approach solutions from a variety of angles.

We're not here to set the world on fire, only to provide what we call "tiny solutions" with tangible benefits.

QUESTION: Could you give examples of what you have provided so far?

ANSWER: We give customers "bottom line tactics" to improve their productivity and efficiency by providing individual machine or fleet recommendations; owning and operating estimates; operator and telematics-based insights; and more. We offer this service to all types of companies, no matter their size. Each company's needs are unique, so our solutions are as well.

Machine recommendations are a prime example. A customer may be thinking that a 30-ton excavator is the best fit. However, our analysis of the business and the type of work it performs may show that the owner will only use

Continued ...



**Ken Calvert,
Director,
Business Solutions Group**

This is one of a series of articles based on interviews with key people at Komatsu discussing the company's commitment to its customers in the construction and mining industries – and their visions for the future.

Ken Calvert has been with Komatsu since 2001. He was recently named Director of Komatsu's new Business Solutions Group, which he describes as a "team of individuals working in collaboration to provide service and support to customers, Komatsu distributors and Komatsu corporate personnel."

Ken's career includes management positions with the world's two most prominent equipment manufacturers, with a major equipment distributor and as an end user. His responsibilities have involved logistics, manufacturing, marketing, sales and finance. He has held previous roles with Komatsu, including Director of Product Support Systems and Director, KOMTRAX.

"My business passions are process and process improvement, and they align perfectly with this new position," said Calvert. "The KOMTRAX team became the Business Solutions Group a few months ago, but it's more of an extension than a replacement. We still rely heavily on KOMTRAX data, which we use as part of our solutions for customers, distributors and manufacturers. We have the ability to offer so many more services now, and what we really like is when someone brings us a new idea or challenge that we can really dig into and find ways to resolve."

A resource for customers, manufacturers and distributors

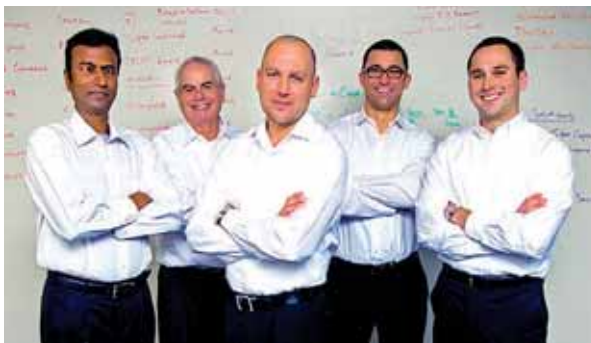
... continued

a 30-ton machine 5 percent of the time. We would use this information to let the owner know that it would be more beneficial to purchase a 20-ton excavator and rent a 30-ton as needed.

One way we helped Komatsu – and, in turn, our customers – was through a campaign to bring greater awareness about regeneration. Tier 4

engines require it, but there are two different processes that need to be carried out depending on the type of alert an operator receives. The concern was that operators weren't taking the appropriate action when they saw a regeneration icon pop up in their Komatsu machine. We designed posters and key tags that outline what to do based on the type of icon that appears.

(L-R) The Business Solutions Group includes Muthaiya Kiliour, Director Ken Calvert, Deputy Director Matt Beinlich, Goran Zeravica and Robert Hussey. Calvert says the group's aim is to be "a resource for all three legs of the industry stool: customer, manufacturer and distributor."



Komatsu's Business Solutions Group provides customers with a wide variety of services, including "bottom line tactics" to help improve productivity and efficiency through individual machine or fleet recommendations; owning and operating estimates; operator and telematics-based insights; and more. "We offer this service to all types of companies, no matter their size," said Director Ken Calvert. "Each company's needs are unique, so our solutions are as well."



One of the services Komatsu's Business Solutions Group offers is jobsite analysis designed to help customers maximize production and reduce owning and operating costs. "Our team has keyed into a slogan: the right machine, operated the right way and buoyed by superior service," said Director Ken Calvert. "Our aim is to help customers in all three aspects by helping them choose the best machines for their needs; showing them how to be the most efficient and effective with their equipment; and providing world-class support that includes managing parts, service, financing and other items that affect their bottom lines."



To go along with that, we created a Tier 4 dashboard for our distributors through KOMTRAX, Komatsu's remote monitoring system. It provides vital information such as how often a customer's machine is regenerating and if it's being done correctly. The distributor can then contact the customer and address the issue to avoid a potentially costly repair down the road.

QUESTION: Where did the idea for forming the new Business Solutions Group come from?

ANSWER: Komatsu believes strongly in listening to customers and visiting their jobsites to understand their specific needs. One common theme we heard was that companies would like to build stronger relationships with the people that design and manufacture their machinery. Our group facilitates that, but we wanted to be more than a liaison between the customers and the factory. We want our customers' relationships with Komatsu to be strong bonds. Our aim is to be a resource for all three legs of the industry stool: customer, manufacturer and distributor. Feedback continues to be positive across the board, and we encourage everyone to continue bringing us their needs, ideas and suggestions for ways the Business Solutions Group can be of benefit. Customers can do that through their distributors. ■

OPERATING TIPS



Discover more

'REGENERATE' THE RIGHT WAY

Following proper procedures is imperative for Tier 4 equipment – here's how to do it

The advent of Tier 4 ushered in further reductions in machine emissions such as soot. Most Komatsu machines use a Komatsu Diesel Particulate Filter (KDPF) to capture the soot produced by the engine, and these filters have a self-cleaning ability called regeneration, which uses heat to oxidize soot into gases that leave the filter. Regeneration is a normal part of running machines with a KDPF, and the process rarely gets in the way of operating.

"Regeneration falls into two categories – active and manual – and each involves specific actions that should be taken by the operator," said Matt Beinlich, Deputy Director of Komatsu's Business Solutions Group, Products and Services Division. "Operators will know what to do based on alert symbols, which are either yellow or red. Yellow is active, and red is manual."

During active regeneration, the operator should work the piece of equipment hard because a loaded engine creates hotter exhaust gas, which is better for the process. Shutting down the machine is fine, as it will pick up where it left off at the next restart. If the alert symbol is red, it's imperative to park the machine in a safe location and initialize the proper idle procedure.

Idle correctly

"If for some reason the operator can't work the machine during active regeneration, or is following the appropriate course of action during manual regeneration, proper idle is imperative," said Beinlich. "There are specific instructions for both tracked and wheeled machines. Following these procedures will optimize regeneration."

Proper idle includes:

- In tracked machines: All lock levers must be in the "lock" position with the throttle dial turned down to minimum.
- In a wheeled machine: The transmission needs to be in neutral, the parking brake applied and the accelerator pedal released.
- If a machine is going to be shut down completely: The operator should let it cool for five minutes before turning off the key. ■



Matt Beinlich,
Deputy Director,
Business Solutions
Group, Products and
Services Division



Operators will know whether active or manual regeneration is required based on the alert symbols indicated by the machine. Yellow means active, and the machine should be worked hard. Red is for manual, and operators need to park and properly idle the machine.

Tier 4 machines require either active or manual regeneration, and proper procedures should be followed. Regeneration is a normal part of running machines with a Komatsu Diesel Particulate Filter, and the process rarely gets in the way of operating.



OSHA FINES ON THE RISE

Federal budget deal could bring massive one-time increase for violations, tie future penalties to inflation

OSHA fines may rise significantly as part of the federal budget bill passed last fall, including a potential one-time jump of more than 80 percent. The bill calls for new rates to take place no later than August 1 of this year.

The fine increases allow for a “catch-up adjustment” to today’s dollars. Fines have remained the same since 1990, but the Consumer Price Index has increased nearly 80 percent during the last 25 years.

With the adjustment, the maximum fine for a serious violation could jump from \$7,000 to more than \$12,700. A repeat or willful violation penalty may rise from \$70,000 to more than \$127,000. OSHA is still reviewing the legislation and has not announced the exact figures for the penalties.

Going forward, the bill would raise fines annually by the rate of inflation, similar to

other federal agencies such as the Federal Highway Administration and the Federal Aviation Administration.

Groups call for education focus

According to a recent constructiondive.com article, several industry safety experts said that OSHA should focus on education and outreach rather than increasing fines. Some called for a significant amount of the money to be used for those purposes.

“If they want to make more in fines, that’s their prerogative,” said Brian Turmail, Senior Executive Director of Public Affairs for the Associated General Contractors of America in the article. “But let’s not pat ourselves on the back. How much you collect is a measure of how much you haven’t educated the community you regulate.” ■

A section of the federal budget bill passed last fall allows OSHA to increase fines, including a potential one-time catch-up adjustment of more than 80 percent. Going forward, penalties would rise annually based on inflation.



MORE INDUSTRY NEWS

Schools commit to increasing diversity in engineering

More than 100 signatories, including numerous college of engineering deans at major universities, have pledged to “commit through specific action to provide increased opportunity to pursue meaningful engineering careers to women and underrepresented demographic groups.” The plan was laid out by the American Society for Engineering Education (ASEE) and announced earlier this year during an event at the White House.

The ASEE’s plan includes a four-step commitment that participating institutions will implement. The plan states that schools establish a diversity plan for engineering programs and develop at least one K-12 or community college pipeline activity

with explicit targeted goals and measures of accountability aimed at increasing the diversity and inclusiveness of their engineering student bodies. Schools must also cultivate strong partnerships between research-intensive engineering schools and non-PhD-granting engineering schools serving populations underrepresented in engineering; and create and implement proactive strategies to increase representation of women and underrepresented minorities.

“A measure of success will be the notable increase in the diversity in enrollments, retention and graduation rates of engineering students, and increased diversity in our faculty and the engineering workforce, over the next decade,” according to the pledge. ■



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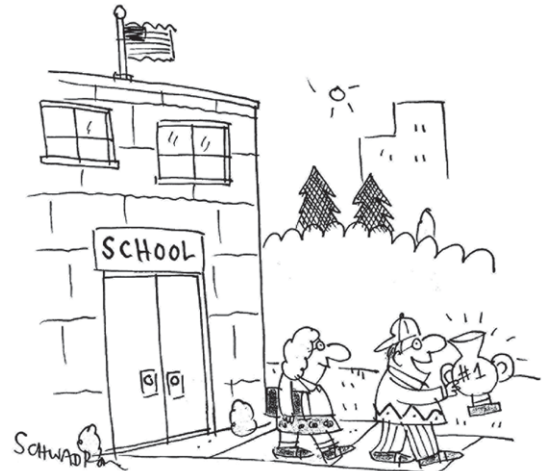
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SIDE TRACKS

On the light side



"We did a full workup – heart, lungs, credit score, investments . . . you can afford to live another 14 years."



"Spelling? No, I got the award for being the best Googler in my class."



"The GPS told me to' is no excuse."

Did you know...

- There are an average of 800 kernels on an ear of corn.
- In 2008, a New York City hot dog cart vendor paid \$600,000 for the exclusive right to operate outside of the Museum of Modern Art.
- Tug-of-war was an official Olympic event until 1920.
- Approximately 20,000 people are hired to play Santa Claus across the United States annually.
- The average elevator travels the distance equal to half the length of the equator each year.
- An alligator can go through 3,000 teeth in its lifetime.
- There are more English words beginning with the letter "S" than with any other letter.
- An estimated 100 million pounds of guacamole and 14,500 tons of chips were consumed during Super Bowl 49.
- There are approximately 165,000 cars produced every day.

Brain Teasers

Unscramble the letters to reveal some common construction-related words. Answers can be found in the online edition of the magazine at www.RMLRoadToSuccess.com

1. L I F L _ _ _ L
2. H P T C I _ _ T _ _
3. N U L E T N _ U _ _ _
4. A P R C S E R _ _ R _ _ R
5. F N I R K G C A F _ _ K _ _



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 VÖGELE
 HAMM
 KLEEMANN
 NPK
 HENSLEY
 MEGA
 TEREX FUCHS



2003 WA380-5



2006 WA320-5



2013 PC290LC-10 L.F.



2012 D61EX-23



2010 Hamm HD140VO



2011 Magnum 640R

USED EQUIPMENT FOR SALE

YR	MODEL	HRS	STK#	PRICE
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ARTICULATED TRUCKS

2012	HM300-3	2,575	EMD010941	\$212,000
2013	HM300-3	2,281	EMD010940	\$249,000
2012	HM400-3	4,103	EMD0011209	\$269,000
2012	HM400-3	4,646	EMD009772	\$269,000

WHEEL LOADERS

2003	WA380-5	9,200	EMD013187	\$59,500
2005	WA320-5	5,359	EMD011947	\$59,000
2012	WA380-7	3,330	EMD012070	\$137,000
2007	WA500-6	7,675	EMD013176	\$135,000
2006	WA320-5	10,190	EMD012608	\$39,000

EXCAVATORS

2013	PC290LC-10 L.F.	2,363	EMD011951	\$192,000
2012	PC360LC-10	2,407	EMD011203	\$197,000
2012	PC360LC-10	2,286	EMD01270	\$204,000

DOZERS

2012	D61EX-23	1,918	EMD012209	\$164,000
2012	D375A-6	2,330	EMD009839	\$839,000

MISC.

2010	Hamm HD140VO Roller	2,175	EMD005933	\$47,500
2011	Magnum 640R Shear	Low hrs.	EMD007524	\$49,500
2011	Magnum RHB340 Hammer	Low hrs.	EMD007527	\$25,000

For more information, go to
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