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## LIBERTY CIVIL CONSTRUCTION, LLC

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Austin-area company grows rapidly to become full-service site contractor specializing in utility work

## A MESSAGE FROM <br> THE VICE PRESIDENT



Bruce Truesdale


Dear Valued Customer:
Our country faces an infrastructure crisis. Congested and deficient roadways and unsound bridges are safety hazards. Clean and safe water-supply pipelines are vital to our everyday needs. Yet, we consistently underinvest in these and other basic items. There is talk in Washington about addressing these issues with a $\$ 1$ trillion - or more - infrastructure plan, but nothing is concrete, and lawmakers continue to put it off.

We encourage you to contact your representatives and push for proper funding to bring our nation's infrastructure well above the dismal $\mathrm{D}^{+}$ grade the American Society of Civil Engineers recently gave it.

A hearty investment in infrastructure would create numerous jobs. It's no secret that the construction industry is in the midst of a labor shortage. We hope that lawmakers can address this topic too with ways to help fund more vocational programs. In this issue of your WPI Update magazine, you can read how the construction industry is taking steps to encourage young people to consider construction as a career.

What could be better than running equipment such as Komatsu excavators? You can learn about the new tight-tail-swing PC138USLC-11 inside. There are also articles on new large trucks, a wheel loader and more, showcasing the broad range of equipment that Komatsu manufactures.

Of course, someone has to maintain those machines. Komatsu continues to partner with Oklahoma State University Institute of Technology (OSUIT) to educate and train tomorrow's technicians. I believe you will find the story in this issue focused on the 20-year relationship between Komatsu and OSUIT an interesting read.
As always, if there's anything we can do for you, please call or stop by one of our branch locations.

WAUKESHA-PEARCE INDUSTRIES, LLC


Bruce Truesdale
Vice President of CMD Operations


## IN THIS ISSUE

## LIBERTY CIVIL CONSTRUCTION, LLC

Meet the leaders of this fast-growing utility contracting business who are busy with the housing boom in the Austin metro area.

## HANDS-ON EXPERIENCE

Ride along as WPI customers test the latest intelligent Machine Control equipment and learn about Komatsu's
SMARTCONSTRUCTION services at spring Demo Days.

## BUILDING THE FUTURE

Take a look at the innovative methods the construction industry is using to train and recruit millennials to meet a shortage of skilled workers.

## GUEST OPINION

Read why the Association for Equipment Manufacturers says that now is the time to upgrade the country's infrastructure.

## PRODUCT NEWS

Check out how the PC138USLC-11 excavator supplies a productive punch on today's jobsites.

## INNOVATIVE PRODUCT

Understand how the new PC650LC-11 production excavator is well-suited for deep trenching applications and loading trucks.


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# LIBERTY CIVIL CONSTRUCTION, LLC <br> Austin-area company grows rapidly to become full-service site contractor specializing in utility work 



An operator with Liberty Civil Construction lowers a section of concrete storm pipe with a Komatsu PC210LC-11 excavator.

Two years ago, Austin, Texas, was named the fastest growing big city in the nation. At the time, its population was a little more than 900,000 . Today, it is rapidly approaching 1 million, creating a massive need for additional housing and new infrastructure.
"The boom has been great for us," said Liberty Civil Construction, LLC President Mike Ehrhardt. "We are primarily a single-family, residential-subdivision civil contractor, and the majority of our jobs are for major homebuilders who are constructing new housing developments. We also work with smaller independent builders and developers and are involved with some small commercial projects."
Liberty Civil Construction offers site packages that include mass excavation, utility installation and street construction. The company's specialty is installing water, sewer and storm pipe and associated structures. It often acts as a general contractor on residential subdivision work.
"Ninety-nine percent of what we do is from grade down," explained Vice President


Heath Haney. "In addition to utilities, we also build subgrade for streets. When we are the general contractor, we sub mass earthwork and paving to preferred contractors who we have developed good relationships with and know that we can trust to meet our schedule."

## 'Fast and furious'

Ehrhardt and Haney began scheduling customers about a year ago when they teamed up to form Liberty Civil Construction. Together, they own 50 percent of the company and manage day-to-day operations. Financial partners, Jerry and Jason Merck, own the other half and are also Vice Presidents. Based in Cedar Park, it covers a territory that ranges north to south from Temple to New Braunfels and east to west from Manor to Marble Falls.
"We focus primary on utility infrastructure because we both have a solid background in that area," Haney explained. "We each have more than 20 years of experience. Mike and I met at our last employer and hit it off. We were looking for something different and wanted to go out on our own."

Ehrhardt described Liberty Civil Construction's first few months as "fast and furious." The company began bidding projects at his kitchen table and landed a couple right away.
"We moved into an office in August 2016 and actually turned our first bit of dirt in October, so there was some time spent putting things in place before we could even begin," recalled Ehrhardt. "We literally had contracts and staff before we had equipment to run."

Once it got started, Liberty Civil Construction took off quickly. By the first of February it had completed three projects, another eight were underway and the firm was
 Haney. "They were willing to give us a chance. That helped us get a good start, but we also made a lot of phone calls to other developers and potential customers to let them know we were viable and available."
And, ready to meet any challenge. Liberty Civil Construction's first project involved putting in nearly 2,000 feet of utility lines for a five-acre, 17-lot development, known as Cypress Mill, in Cedar Park.
"Some of the hardest rock in central Texas is right there, so we spent a good deal of time hammering, ripping, milling and trenching to get pipe in the ground," noted Ehrhardt. "It was also unique in that the utilities were extremely shallow, and because of that it called for using ductile iron for the wastewater instead of PVC. Some of the storm piping was Class 4 RCP instead of Class 3 . Very unique."
Not long after completing Cypress Mill, Liberty Civil Construction started a $\$ 4$ million contract in Round Rock known as Glen Ellyn. The 55-acre, 200-lot development saw crews install more than 20,000 feet of water, sewer and

storm piping as well as build the road subgrade. It hired out the mass excavation and paving.
"We would like to have eight to 10 active projects going at any time, with ones that involve 10,000 to 15,000 feet of pipe being the ideal size," said Haney. "We believe we can handle that and continue to provide exceptional service, which is foremost in our minds."

## Komatsu equipment and WPI the right combination

With work lined up and staff coming on board, Ehrhardt and Haney turned their attention to acquiring equipment. They contacted WPI's Austin branch about Komatsu machinery and with the help of Territory Manager Sean Casey built a fleet of Dash-11 PC170, PC210, PC360 and PC490 excavators, as well as WA320-8 wheel loaders.
"I ran Komatsu equipment extensively with other companies, so I knew it offered the combination of quality, reliability and low-ownership costs that we were looking for," explained Haney. "We work with a variety of pipe sizes and trench depths, so a

# Goal is to be the best, not the biggest 

. continued
range of machines is essential. We consider the PC360s as our main digging machines, and the next sizes down are used for backfill and other smaller tasks. The PC490 handles deeper digs and the larger, heavier pipe we occasionally use. Excavators are our bread-and-butter machines because we use them for trenching, lifting and lowering pipe, backfilling and more; so we want the top-of-the-line brand, and in our estimation, that's Komatsu."
Liberty Civil Construction backfills, moves pipe and loads materials with the 34,000-pound-plus loaders equipped with buckets and forks. "They are the second-most essential machines on a job," reported Ehrhardt.
"The WA320s are the perfect size for our operations. They carry the right amount of gravel we need for backfill and, in most places with limited space, they are maneuverable enough to still get perpendicular to a ditch."
(L-R) Liberty Civil Construction President Mike Ehrhardt and Vice President Heath Haney work with WPI Territory Manager Sean Casey. "Being relatively new and the size we are, having a shop with mechanics is not an option," said Haney. "We conveyed our needs to Sean and WPI. They assured us of prompt response times, and they have been true to their word."


A Liberty Civil Construction operator digs into a pile of gravel used for backfilling a utility trench in a residential subdivision in Round Rock. "The WA320s are the perfect size for our operations," said President Mike Ehrhardt.


The Liberty Civil Construction owners say their buying decision came down to more than just the brand name on the machines. They also sought outstanding dealer support.
"Being relatively new and the size we are, having a shop with mechanics is not an option. If there is an issue, we want someone who will respond quickly and take care of it," shared Haney. "We conveyed our needs to Sean and WPI. They assured us of prompt response times, and they have been true to their word. All the machines are Tier 4, so WPI takes care of the routine services through Komatsu CARE for the first 2,000 hours or three years. That's a fantastic program that saves us time and money and gives us peace-of-mind that the machines are maintained properly and on-time. WPI tracks our machines' hours through KOMTRAX, which we also use to look at idle time, production and other critical information."

## Right at their targets

When Ehrhardt and Haney decided to go into business for themselves, they talked about how big Liberty Civil Construction should be. Ideally, they wanted to have 100 to 125 employees and be large enough for multiple, comprehensive projects while maintaining quality customer service. In the year since the firm opened, they have almost reached the staff number and already achieved the other targets.
"Our goal is not to be the biggest, but the best at what we do," said Ehrhardt. "We can be selective about what we bid and who we work with. With the housing market as hot as it is, we could expand four or five times over right now, but we would rather take a measured, controlled-growth approach going forward."
They are open to expanding Liberty Civil Construction's commercial project list. "We see the housing market continuing to blossom for at least a couple more years. However, even if it slows down, commercial will continue to be hot for quite a while to catch up to the need that housing creates," said Haney. "Residential will likely always be our majority category, but we are certainly open to bumping up commercial and multi-family to roughly 25 percent. Whatever the percentages are, we have the capabilities to handle what we choose to do."


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Hve used them all and Komatsu is the best."

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THE CUSTOMER IS ALWAYS RIGHT.
"Komatsu's i-machines definitely make my operators better at what they do. I mean, we haven't been using this technology for the past twenty years, so it's pretty new. But this tech makes it easier to do our job-makes it so that my operators can work more efficiently, and we get a better finished product"

USED WITH PRIDE
romaisu

## TEST-DRIVING THE FUTURE

## Customers have opportunity to experience the latest offerings from Komatsu

Nearly 180 customers attended Komatsu's spring Demo Days at its Cartersville Customer Center in Georgia. The three-day event featured the company's latest products, including its industry-leading intelligent Machine Control equipment and new SMARTCONSTRUCTION service that debuted at CONEXPO-CON/AGG 2017.
"Our Demo Days are great events because they give customers the chance to operate equipment and talk to our experts, so they get a real feel for everything these machines can do," said Komatsu Director of Training and Publications Tom Suess. "The technology on our intelligent Machine Control pieces is amazing, and to give customers the chance to experience them first-hand is really valuable."

In the morning, attendees had the option to tour Komatsu's Chattanooga Manufacturing Operation in Tennessee or take part in a SMARTCONSTRUCTION session and learn more about the service that helps customers achieve maximum performance through their intelligent Machine Control equipment. The SMARTCONSTRUCTION session was held in the recently renovated theatre at the Cartersville Customer Center.

After lunch, attendees had the remainder of the afternoon to operate more than 30 machines, including Komatsu's latest releases, the HB365LC-3 hybrid excavator, PC650LC-11 excavator, PC170LC-11 excavator, HD605-8 haul truck and D51PX-24 dozer. The lineup also featured the entire family of intelligent Machine Control excavators and dozers.

Komatsu's operator-training simulator, Worksite VR, unveiled at CONEXPO-CON/AGG, was available for customers to try out as well. Attendees completed a series of excavator
tasks using a pair of virtual-reality goggles and working joysticks.

## Many firsts

The event also served as a welcome for Komatsu America's new President and Chief Operating Officer Hank Takatsuki.
"Demo Days are always exciting, but this was special because there were so many firsts," said Suess. "It was our initial event after CONEXPO-CON/AGG that gave customers the chance to test all of the things they may have seen or heard about from the exhibit; we were able to show off our recent renovations; and we had the opportunity to welcome Hank. It was an awesome week and a great springboard into the future."


Andy Soria (left) of Martin Marietta, SW Division and Jess Widner of WPI check out machinery at Demo Days.

A customer tests Komatsu's PC650LC-11 excavator at Demo Days
in Cartersville, Ga.


## BUILDING THE FUTURE

## NEW PATH TO CONSTRUCTION JOBS Industry finds creative solutions to recruit millennials, address employee shortage

Baby boomers account for 40 percent of the workforce in the construction industry. As this generation enters retirement, the construction industry is in a race against time to find workers to fill the void.

Ask any contractor what is the biggest challenge facing his or her business, and the answer will likely center on finding qualified workers. Since the Great Recession ended, recruiting capable employees with construction experience has presented a problem for many companies.
Recently, however, hiring employees to work in the industry at all - regardless of their experience level - has become a larger issue that is impacting the skills gap. Baby boomers make up 40 percent of the construction workforce. The generations that followed haven't joined the industry with as much regularity, setting the stage for a significant worker shortfall as the baby boomers begin to retire.
The Bureau of Labor Statistics on Occupational Outlook predicts the construction industry will need 1.7 million workers by 2020 . With the national housing market experiencing tremendous growth and infrastructure projects continuing to get the green light, construction companies are often unable to keep pace by hiring additional employees. This can create dire
consequences for an industry that is crucial to the health of the American economy.

## The millennial issue

While there is no quick fix to the shortage of workers, the solution is fairly obvious - the industry needs to recruit millennials, those born between the early 1980s and the early 2000s. This is no small task, and it will require employers to drastically change their mindsets as well as that of those in the hiring pool.
Select a reason for millennials' lack of interest in the construction field - an education system that values four-year degrees, lack of blue-collar work ethic, addictions to smartphones and video games or a sense of unearned entitlement - and there is a study to back up the claim. However, construction isn't the only industry scrambling to learn how to employ this generation.
According to a 2016 study by staffing agency Adecco, 92 percent of business leaders across multiple industries said that Americans are not as skilled as needed for employment. The study also reported that 64 percent of the leaders interviewed think this shortage of skilled workers will result in a serious lack of investment in their companies.
With several industries, including education, health care and tech, vying for the services of the millennial workforce, some employers are in an unfamiliar position of needing to become more marketable to potential employees after decades of the reverse being true. Industries that adapt their recruiting practices to attract millennials will be better-positioned for success.

## Back to school

Thanks to budget cuts and a growing emphasis on preparing teens to enter four-year colleges or universities, trade programs have been reduced or cut completely from the public school system. This


The Bureau of Labor Statistics on Occupational Outlook predicts the construction industry will need 1.7 million workers by 2020. With a national housing-market boom and more infrastructure projects getting the green light, construction companies are often unable to keep up with demand.
has shrunk the pool of qualified workers who can trade their caps and gowns for hard hats and steel toes upon graduation.
One strategy delivering positive results is to tailor education that fits the prevailing college-bound mindset of today's students. Such programs allow young people to have the college experience, yet still learn the skills necessary for a trade. These options provide an attractive alternative to the growing price tag of a four-year degree. By completing a vocational program, students save the expense of two years of college - while also paying lower annual tuition compared to four-year programs - and enter well-paying careers sooner and with far less or no debt.
It is a trend that has gained significant traction. Diesel-technology programs at North Dakota State College of Science (NDSCS) and Oklahoma State University Institute of Technology offer a blend of classroom and hands-on learning to prepare students for careers in just two years. Additionally, agreements with manufacturers and distributors allow participants to work in local dealers' garages as part of the course, with many students guaranteed employment with those dealers after graduation. (See related story in this issue about the Komatsu Advanced Training program at Oklahoma State University Institute of Technology.)
A Technician and Career Developer for the Komatsu distributor in North Dakota reports that the company has seen great returns from


Reinhardt University student Russell Goemaere (left) meets with a hiring representative at a Komatsu Recruitment Day in Cartersville, Ga. Events aimed at bringing more millennial workers into the industry are common as companies try to overcome the worker shortage.
its partnership with NDSCS. "The students are part of our culture for two years. There's no learning curve. Once they walk across that stage at graduation, they are full-time employees."

## Creative programs

Cramming for tests and writing endless term papers can make even the brightest students sweat. Research shows that programs which blend real-world experience with traditional classroom teaching yield the deepest level of learning by combining theory with practice. For educators catering to the construction industry, designing programs in this way is now a key focus.

One school demonstrating success with this model is Ohio's Butler Tech, which offers hands-on, technical training for high schoolers. Butler Tech students in construction and landscaping programs recently remodeled a local Little League complex, in addition to taking academic courses. Supervisor

## Incentives, flexibility are key factors

. continued

Jon Graft says that the program gives students an education which translates to their future jobs and also introduces them to industry professionals, creating a pipeline between employers and potential employees. The Association for Career and Technical Education says that students enrolled in similar programs have a high school graduation rate of 93 percent, with 60 percent of students pursing careers in the field for which they received technical training.
Middle Tennessee State University (MTSU) applies a similar model at the four-year university level with its concrete-industry degree. While in the program, students combine classwork with hands-on learning on their way to a bachelor's degree. Another program aim is to match students with potential employers for summer jobs that pay as much as $\$ 20$ an hour and can produce multiple job offers upon graduation.

Extreme Sandbox hosts several high school heavy-equipment camps annually at its Hastings, Minn., facility to familiarize students with the construction industry through hands-on activities.


Komatsu Director of Distributor Development Mike Hayes (center) poses with the 2016 Komatsu Diesel Program graduates at North Dakota State College of Science. Sponsored two-year vocational programs are a popular option for both equipment distributors looking to hire qualified workers and students who want a college experience.


## AEM MOTTO: \#TIMETOBUILD

## Association gives four reasons why Congress should tackle infrastructure issues now

This year's nationally recognized Infrastructure Week in May couldn't have been better timed. President Trump continues to emphasize the importance of upgrading U.S. infrastructure, and members of Congress on both sides of the aisle are eager to tackle this vital issue. As this year's Infrastructure Week theme suggested, now is the perfect \#TimetoBuild. The Association of Equipment Manufacturers (AEM) recently joined with dozens of other organizations and hundreds of individuals to take the message to Capitol Hill.

## Time to act

Here are four reasons (in no particular order of importance) why this is an opportune time to pass meaningful legislation to upgrade and modernize the U.S. network of roads, highways, bridges, waterways, locks, dams, underground-utility infrastructure and broadband.

We know we have a problem. The sad state of U.S. infrastructure has been amply litigated. The case for investment and action has been made and supported with economic impact studies, report cards and warnings of what will happen if we don't act. In the arena of Capitol Hill and public debate, the issue is settled. U.S. infrastructure needs help.

The American public wants action. AEM conducted a national poll last summer that showed U.S. voters overwhelmingly support increased federal investment in the nation's infrastructure. Subsequent surveys indicate that prioritization has not wavered.
Infrastructure is bipartisan. Infrastructure continues to serve as a unifying priority for Republicans and Democrats, as well as among the administration, the U.S. House and the U.S.

Senate. While lawmakers may not agree on much these days, infrastructure modernization is an opportunity for bipartisan consensus and progress.
The infrastructure tech revolution is here. As was on full display in the Tech Experience at CONEXPO-CON/AGG, and is demonstrated by AEM's Infrastructure Vision 2050 and Thinking Forward initiatives, technology is driving the future for everything related to infrastructure. We must get ready to embrace and adapt to the rapid pace of innovation around how we move people and goods.
Now is the time to remind your state and federal legislators about how important it is to upgrade and modernize U.S. infrastructure. Through efforts such as personal visits to lawmakers, participation in policy discussions and writing op-eds, we will continue to remind legislators that it's always the perfect \#TimetoBuild.

Kate Fox Wood, AEM Campaign Director, Infrastructure Vision 2050, outlines four reasons why now is the time to focus on infrastructure, including the public's desire for action and bipartisan support among lawmakers.


# NEW COMPACT EXCAVATOR 

## Good lift capacity, tight-tail-swing radius are combined with advanced technology in the PC138USLC-11



Kurt Moncini, Komatsu Senior Product Manager

Upgrades, updates and enhancements. Each new model that Komatsu produces has them, and the PC138USLC-11 Tier 4 Final excavator is no exception, with productive features that provide excellent lift capacity, stability and performance in a compact model design that fits a variety of applications.
"The PC138USLC-11 is the perfect machine for contractors on highway, bridge and other roadwork jobs," said Kurt Moncini, Komatsu Senior Product Manager. "It's easy to transport, versatile and the tight tail swing fits easily within one lane of traffic. Even though it's compact, the excavator has a robust counterweight and can be an effective tool on large, open jobsites, too."

The 7,630-pound counterweight provides excellent lift capacity, equal to or better than conventional models in the same size class. The

| Quick Specs on Komatsu's PC138USLC-11 Excavator |  |  |  |
| :---: | :---: | :---: | :---: |
| Model | Net Horsepower | Operating Weight | Bucket Capacity |
| PC138USLC-11 | 97.2 hp | $34,731-37,669 \mathrm{lb}$ | $0.34-1.00 \mathrm{cu} \mathrm{yd}$ |

Komatsu's new Tier 4 Final PC138USLC-11 features excellent lift capacity, stability and performance in a compact model designed to fit a variety of applications. If the tracks can fit through an area, then there is enough space so that operators can swing without worrying about hitting an obstruction.
VIDEO


## THE CUSTOMER IS ALWAYS RIGHT.

"Product performance, brand reputation and good pricing were a big part of why I switched to Komatsu. I saw their commitment to the customer, and once we tried the product we were instantly blown away! Komatsu's and my distributor's support are first class. And Komatsu was first to market with intelligent Machine Control. They're always adding innovations that keep me more


# NEW PRODUCTION EXCAVATOR 

## PC650LC-1 built for mass excavation and deep trenching

Whether loading trucks or working in deep sewer and water-trenching applications, Komatsu's new PC650LC-11 delivers. This newcomer to the company's excavator lineup maintains the productivity and transportability of the previous Dash- 8 model while at the same time improving fuel efficiency, cab design and serviceability.

With nearly 2 percent more horsepower compared to its predecessor, the PC650LC-11 still lowers fuel consumption. The 436-hp engine is Tier 4 Final emissions-certified and has an integrated selective catalytic reduction system that uses diesel exhaust fluid (DEF) to meet EPA $\mathrm{NO}_{\mathrm{x}}$ regulations.
The powerful engine, combined with a highly efficient hydraulic system, gives the excavator excellent digging force at depths of up to 33 feet 6 inches. Operators can choose from three working modes to match material and work load. A one-touch Power Max function increases horsepower on demand by 8 percent for eight seconds when needed.
"The PC650LC-11 matches perfectly with 30 - to 40-ton trucks for high-production loading, and it is well-suited for mass excavation and deep sewer and water-trenching applications," said Justin Lantin, Komatsu Product Marketing Manager. "It is also designed to accommodate flexible job operations that require frequent transportation with reduced time needed for disassembly."

## 'Greater value'

Komatsu specifically designed the cab for excavators, giving it both strength and comfort. It features a reinforced box structure framework and is mounted on viscous isolation dampers for low vibration levels. Its monitor shows DEF level, ecology guidance, operational records,
fuel consumption and utilization information. A new display combines machine information and a wide, landscape view from the standard rearview camera, allowing operators to easily see the working area behind the machine.
"With our Level 5 KOMTRAX telematics system, operators and owners have access to increased data to better manage their operational costs," said Lantin. "Like other Tier 4 machines, this excavator comes with our Operator Identification System and Auto Idle Shutdown. Whether rented, leased or purchased, the PC650LC-11 is covered by Komatsu CARE, which provides complimentary scheduled maintenance and a 50 -point inspection at each service for the first three years or 2,000 hours. It all adds up to greater value."

| Quick Specs on Komatsu's PC650LC-11 Excavator |  |  |  |
| :---: | :---: | :---: | :---: |
| Model | Net Horsepower | Operating Weight | Bucket Capacity |
| PC650LC-11 | 436 hp | $140,4567-145,284 \mathrm{lb}$ | $2.05-4.98 \mathrm{cu}$ yd |

The 436-horsepower PC650LC-11 improves fuel efficiency, cab design and serviceability compared to its predecessor. It matches perfectly with 30- to 40-ton trucks for high-production loading, and it is well-suited for mass excavation and deep sewer and water-trenching applications.


## SMARTCONSTRUCTIOn



Want to make your next machine acquisition really count? Komatsu's lineup of automated excavators including the all-new PC360LCi-11 and PC490LCi-11, feature a revolutionary, factory integrated, machine control system. The exclusive intelligent Machine Control technology lets operators focus on moving materials efficiently, without worrying about digging too deep or damaging the target surface. Contact your Komatsu distributor to learn how you can hit pay dirt today with Komatsu innovation.

## комMisu

## NEW RIGID-FRAME TRUCKS

# Increased horsepower, traction control system improve productivity and per-ton costs to move materials 

Haulage is all about moving materials from point A to point B at the lowest per-ton cost possible. Komatsu's new Dash-8 HD465 and HD605 rigid-frame trucks improve on the already-stellar record of its predecessors with a higher horsepower engine ( 724 hp ) and a Komatsu Traction Control System (KTCS) that increase productivity.
In addition to higher horsepower, the Tier 4 Final engine reduces fuel consumption by up to 12 percent in the HD465-8 and up to 7 percent in the HD605-8 compared to the Dash-7 models they replace, further lowering costs. Hydraulically actuated Exhaust Gas Recirculation working with the Variable Geometry Turbocharger ensures precise operation and quick response.

## System delivers <br> optimum traction

Now standard, the KTCS automatically applies independent brake assemblies to achieve optimum traction in varying ground conditions. Because the system operates without the need for differential lock-up, steering performance is not compromised. The Komatsu Advanced Transmission with Optimum Modulation Control System (K-ATOMiCS) adjusts shifting performance, according to demand, for a more comfortable ride and reduced material spillage.

## Cab upgrades

Komatsu improved cab access with sloped stairs and handrails in front, replacing the previous ladder configuration. Additional new features include a 7 -inch LCD color screen, a dedicated rearview monitor,
fast-fill fuel system, an engine compartment light and a premium heated and ventilated operator's seat with air suspension.
"With an increase in horsepower and improved fuel economy, the HD465-8 and HD605-8 are designed to maximize production efficiency," said Rob McMahon, Komatsu Product Marketing Manager. "Enhancements to the cab layout and maintenance access, combined with new technology features, give these trucks something everyone will like."

| Quick Specs on Komatsu's HD465-8 and HD605-8 Models |  |  |  |
| :---: | :---: | :---: | :---: |
| Model | Net Horsepower | Gross Vehicle Weight | Payload Capacity |
| HD465-8 | 724 hp | 228,179 lb | 61 ton |
| HD605-8 | 724 hp | 252,870 lb | 69.4 ton |

Komatsu's new HD465-8 and HD605-8 feature higher horsepower engines than their predecessors, as well as the Komatsu Traction Control System. The combination helps improve productivity.



Discover more

## VERSATILE WHEEL LOADER <br> The new WA270-8 powers its way through a wide variety of applications

High production, greater fuel efficiency and improved operator comfort are all traits found in Komatsu's new WA270-8 wheel loader, which fits a wide range of construction, landscaping, agriculture and other applications. Its parallel-lift linkage, with auto tilt-in to simulate a Z-bar, can be used for virtually any job, from pallet handling to hard digging.
"Whether you're lifting, digging or changing attachments on the fly, the WA270-8 is compact enough to squeeze between farm buildings, yet has the power to tackle jobs often planned for bigger machines," said Frank Nyquist, Komatsu Product Specialist. "It's one of the most versatile machines Komatsu offers."
The WA270-8 features a proven, fourth-generation hydrostatic drive train with variable traction control. It has multiple working modes, including an S-mode that provides excellent traction control to reduce wheel slip. This setting is especially useful in snowy, icy or slippery conditions. Creep mode in first gear is easily controlled via a knob on the console, and allows the operator to dial in a travel speed from 1 to 8 miles per hour.
The WA270-8's new Tier 4 Final engine lowers fuel consumption by up to 3 percent in V-cycle loading and 2 percent in load-and-carry applications, compared to its Tier 4 Interim predecessor. The selective catalytic-reduction (SCR) system and other aftertreatment components help the engine with efficiency and longevity. More than 98 percent of the Komatsu Diesel Particulate Filter (KDPF) regeneration happens passively, with no action required of the operator and no interference with machine operation. The SCR system lowers nitrogen oxide emissions and is designed to last for the life of the machine.

## From farms to construction sites

A more comfortable cab with a new, high-back, heated seat softens machine vibration for greater operator comfort. Operators can check vital machine metrics, including KDPF status, diesel exhaust fluid level, fuel consumption and performance information on the 7 -inch LCD color monitor.
"Our advanced KOMTRAX system enables fleet managers to track highly detailed


Frank Nyquist, Komatsu Product Specialist information, such as fuel burn in one type of material versus another, or to monitor fuel usage on a specific job or by operator," Nyquist noted. "It's a great tool that helps owners get the most out of the WA270-8."

| Quick Specs on Komatsu's WA270-8 Wheel Loader |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Model | Net Horsepower | Operating Weight | Bucket Capacity |
| WA270-8 | 149 hp | $28,208-29,079 \mathrm{lb}$ | $2.5-3.5 \mathrm{cu}$ yd |

Komatsu's new wheel loader fits a wide range of construction, landscaping, agriculture and other applications. Its parallel-lift linkage, with auto tilt-in to simulate a Z-bar, can be used for virtually any job, from pallet handling to hard digging.


# WE LISTEN AND LEARN <br> Rich Smith says direct customer engagement leads to productive changes in Komatsu machinery 



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.

Rich Smith, Vice President, Product and Services Division

Rich Smith has been with Komatsu America for 27 years, beginning his career in manufacturing. He has served a variety of functions at Komatsu, including manufacturing, product support, contract administration, technical support and product marketing. His wide range of experience is particularly valuable in developing new products and expanding business into new markets.
"When I started with Komatsu it was at the forefront of machine technology with autonomous trucks," recalled Smith. "It remains there today with innovative products such as our intelligent Machine Control excavators and dozers. I remember when I first saw aftermarket, grade-control systems on dozers and thinking that those masts and cables are going to get ripped off, figuratively and literally. Komatsu solved that by integrating grade control into the machines."
Smith serves on the National Mining Association Board of Directors; is the current President of the National Mining Association Manufacturers and Services Board of Governors; and is also on the Board of Directors of the Energy Equipment and Infrastructure Alliance. He graduated summa cum laude from the University of Illinois at Springfield with a degree in Business Administration and Management.
"I started on the shipping dock at our plant in Peoria, Ill., and worked my way up," said Smith. "I value three things highly: honesty, integrity and work ethic. So does Komatsu, and that's part of why I've stayed here so long. It's like a family-owned business inside of a large organization. I can't imagine ever working for another manufacturer."

## QUESTION: What does the construction market look like?

ANSWER: The market was down slightly last year, but despite that, Komatsu still delivered a lot of machines into the field. This year is off to a good start, and our customers are telling us there may be a bit more strength in the back half of the year.
QUESTION: How does Komatsu meet the demands of a seemingly ever-changing marketplace?
ANSWER: No matter the market situation, we continue to engage customers directly. We make a concerted effort to get out of the office and into the field. During the past few years, we have made more than 15,000 visits to customers, and that's helped us to better understand the markets and our customers' needs.

Further, demonstrations at our Cartersville Customer Center allow us to bring current and potential users of Komatsu equipment to our training and demonstration facility where they can operate our latest machinery and give us feedback.
Customers often share ideas on how they can use the machines in ways that we had not considered. One of the benefits is that we are taking this information and driving it back into our development processes. We use it to manufacture machines that are more specific to the North American construction marketplace and customer needs.

## QUESTION: Can you provide some examples?

ANSWER: Our Tier 4 Final Dash-11 excavators are performing at a much higher level than the


Komatsu Vice President, Product and Services Division Rich Smith says visiting with customers provides valuable feedback. "No matter the market situation, we continue to engage customers directly," said Smith. "During the past few years we have made more than 15,000 visits to customers, and that's helped us to better understand the markets and our customers' needs."

Interim Dash-10s. When the Interim machines were introduced, there was a strong push for fuel efficiency. North American customers appreciate that, but it's not as important to them as in countries where fuel prices are much higher. Instead, those in North America want to maximize productivity. So, we talked to them directly to find the right ratio of economy and production. For example, the PC360LC-11 is now approximately 12 percent more productive than its predecessor while still being quite fuel-efficient.
Another example is the introduction of an Advanced Joystick Steering System (AJSS) in our WA500 wheel loaders, something not previously available in that size of machine. Customers told us they sometimes use it in load-and-carry applications, and AJSS allows them to maximize productivity and minimize cycle times. With standard joystick steering, the top speed is limited for controllability issues and comfort. With AJSS you don't have to do that, so operators can run at top speed in the load-and-carry application.
QUESTION: Attendees could see some of these machines at CONEXPO, along with intelligent Machine Control excavators and dozers. What's on the horizon for those products?
ANSWER: We recently introduced the Tier 4 Final PC210LCi-11 excavator (see related article), and we are developing other products. But, we're looking well beyond the iron. CONEXPO was our formal launch of Komatsu's future vision of SMARTCONSTRUCTION, which provides jobsite solutions with items such as 3-D aerial mapping, personnel training for machine usage and optimization, progress and cost tracking, project management and


Some product improvements, such as Advanced Joystick Steering in the WA500-8 wheel loaders, are a result of customer input, noted Rich Smith, Vice President, Product and Services Division. "Customers often share ideas on how they can use the machines in ways we had not considered," said Smith. "One of the benefits is that we are taking this information and driving it back into our development processes."


Rich Smith recalls seeing the first aftermarket, grade-control systems on dozers. "I remember ... thinking that those masts and cables are going to get ripped off, figuratively and literally. Komatsu solved that by integrating grade control into the machines."
potentially much more. The possibilities are virtually limitless. Again, customers want to be productive and profitable, and we're implementing ways to further help them from both machinery and support standpoints. Komatsu aims to be their total solutions provider.

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## CELEBRATING 20 YEARS

## OSUIT Komatsu training program develops technicians through classroom, hands-on experience

Komatsu recently earned an award from The AED (Associated Equipment Distributors) Foundation for its efforts in promoting education, something the company has been committed to for decades. The Komatsu Advanced Career Training (ACT) program at Oklahoma State University Institute of Technology (OSUIT) - celebrating its 20th anniversary - is a shining example of this dedication.
"The program gives students the skill set they need to become successful technicians and work on heavy equipment, specifically Komatsu machinery," said Mike Hayes, Komatsu Director of Distributor Development. "Komatsu supports the program by providing machinery, componentry, and technical information, the latter of which includes the latest diagnostic tools."

Students in the program are recruited by Komatsu distributors who sponsor their education. Distributors often give financial assistance toward education costs, including tool incentives, as well as other support. After successfully completing the program, all students are guaranteed a job with the sponsoring distributor, and their education continues through company and manufacturer training.
"We believe the Komatsu ACT program at OSUIT is the oldest partnership of its kind," explained Hayes. "It definitely has the longest history on the OSUIT campus. Students learn the fundamentals, and once they are on the job, they further their training and skills. Eventually, they could move into management at the dealership using their formal education and trade skills."

## On campus, in the shop

Komatsu ACT students divide their time between OSUIT and the sponsoring distributor. During each 16-week semester, students spend eight weeks on campus, where they receive classroom and hands-on basic training in hydraulics, electrical systems, engines and more. The balance of the semester is spent in a service department at one of the branch locations of their distributors to utilize the skills they learned in the classroom.
"I was a technician, and I wish there was a program like this when I started," said OSUIT Instructor Hector Garrido-Guevara. "It's a great way for students to learn about systems and machinery and then apply their classroom knowledge in real-world settings. That is invaluable."

Students graduate with an Associate of Applied Science in Diesel \& Heavy Equipment, Komatsu ACT Technology Continued..

Dylan Brown and other students in the Oklahoma State University Institute of Technology program get hands-on training on campus and work in their sponsoring distributor's service department. "The program gives students the skill set they need to become successful technicians," said Mike Hayes, Komatsu Director of Distributor Development.


## Distributors see return-on-investment



Terryl Lindsey, Dean


Hector Garrido-Guevara, Instructor
degree. The program totals 87 credit hours. In addition to classes specific to Komatsu, students take courses in math, writing and history.

Terryl Lindsey, who is Dean of the program, has been at OSUIT nearly 25 years and was an instructor in the Komatsu ACT program at its outset. "Twenty years ago we had a hodgepodge of componentry and no equipment. Today, we have an excellent selection of parts and components, such as hydroshift transmissions, that students can work with as well as several pieces of machinery. Komatsu and its distributors continue to show a strong commitment to the program, and that's made it a huge success."

## Proof in the numbers

Student Dylan Brown recently graduated from OSUIT Komatsu ACT. He said the hands-on opportunities in the classroom and during the half of each semester spent in one of his sponsoring distributor's shops were his favorite parts of the program.
"I went from no knowledge of construction machinery systems to being able to work on my own or with a mentor if I need to," shared Brown. "There is no substitute for actually working on a component or a machine. For example, advanced labs included seeing the inner designs of travel motors and final drives. That has real-world application because I have seen it in the dealer's shop."

In addition to earning an associate degree, students who have finished the program since 2011 also receive their first-level technician career-path certificate recognizing them as Certified Komatsu Technicians. Beyond the core credit hours at OSUIT, students complete the Komatsu Virtual Campus (KVTC) online training courses, one new-model course and two years of employment, which are required for this level of certification.
"Graduates of this program often earn six-figure salaries within a few years," reported Hayes. "That's an obvious benefit for them. The distributors see a terrific return-on-investment because they are getting a proficient technician. Ultimately, that's good for customers because they can rely on dealers to have skilled, experienced personnel who can diagnose and fix machinery with minimal downtime."
Lindsey said that's been the focus from day one. It's why the program took off, grew and remains a model of success.
"We have an 85-percent graduation rate, and 99.8 percent of students who complete the program are hired full-time when they complete the program," noted Lindsey. "Because Komatsu distributors sponsor them, most students leave with little to no debt. Our follow-up data show that five years after graduation, 80 percent are still with the distributor from their internship. This program works; we have a 20-year history that proves it."


## 'EDU-TAINMENT'

## Heavy-equipment camp encourages young people to learn about construction jobs

With a severe skills gap facing the American construction industry, targeting and cultivating the next generation of potential employees is imperative to its success. The worker shortage will have serious consequences, if not addressed.

Warren County High School Career Development Coordinator Odessa Perry knows this and began looking for opportunities to educate her Warrenton, N.C., teens about careers in the construction industry. With students and administration onboard and a grant from the North Carolina Department of Transportation (NCDOT) in hand, she turned to Extreme Sandbox and Komatsu to make the experience happen.
"In 2014, our district created four high school career academies, and engineering construction technology is a specific area," explained Perry. "This year, we received an NCDOT grant to take a trip that would allow our kids to learn more about equipment and the industry. We're so grateful this worked out the way it did."

In late April, Perry and 40 students boarded a bus and made the 20-hour trip to Minnesota to take part in Extreme Sandbox's heavyequipment camp, a full day of hands-on training with Komatsu equipment and information sessions about careers in the construction industry.

## Closing the skills gap

"Our heavy-equipment camps are geared specifically for high school students," said Extreme Sandbox Owner Randy Stenger. "They are a great opportunity for the kids to get in machines and gain a better understanding of these types of careers. We
try to educate and entertain them. We call it edu-tainment. We're a fun company, but we're also committed to strengthening the industry. The skills gap is real, and days like this are a great first step to closing it."
Thanks to a partnership between Extreme Sandbox and Komatsu, the students could operate a pair of D61PX dozers, two PC35MR and two PC210LC excavators as well as two WA270 wheel loaders. Representatives from the local Komatsu distributor were also on-hand to host interactive demonstrations with a service truck and meet with students.
"This was an experience that will stick with these kids for a while," stated Perry. "It was such a great opportunity for them. Extreme Sandbox and Komatsu went above and beyond for us, and we are so thankful."


Odessa Perry, Career Development Coordinator


Randy Stenger, Owner

Extreme Sandbox Owner Randy Stenger (left) provides direction to a Warren County High School student operating a Komatsu PC35MR excavator at a heavy-equipment camp. Students from Warren County High School traveled 20 hours to the Hastings, Minn., facility thanks to a grant from the North Carolina Department of Transportation.


# NEW AGC RECOMMENDATION 

## Construction companies are encouraged to hold safety talks after lunch breaks



Stephen E. Sandherr, AGC Chief
Executive Officer

A new study from the Associated General Contractors of America (AGC) dispels the belief that most construction-related fatalities occur in the morning. In fact, noon is the deadliest hour, according to the association, which now recommends that companies hold safety talks and stretching sessions when workers return from 11 a.m. to noon lunch breaks, which are common on most jobsites.
AGC conducted the study during a three-year period in association with the Myers-Lawson School of Construction at Virginia Tech University. Researchers looked at every construction fatality that occurred during that time frame, with an eye toward helping construction companies implement the most effective safety measures by understanding why, when and how fatalities occur.
"We all share a common goal - getting to zero construction fatalities," said

AGC recommends that companies hold safety talks and stretching sessions when workers return from lunch breaks as a new study revealed that most construction fatalities occur during the noon hour. Additional findings reinforce existing safety practices and many of AGC's longstanding safety programs.


Stephen E. Sandherr, AGC's Chief Executive Officer. "This report offers the data and recommendations needed to help construction firms achieve that goal."
The AGC released the study at a time when construction employment is rising in many areas. Recent data showed payrolls reached their highest level since 2008.

## Reinforcing safe practices

Additional findings reinforce existing safety practices and many of AGC's longstanding safety programs. For example, falls from ladders and other structures account for one-third of U.S. construction fatalities. This confirms a focus by both the association and the industry on offering training and safety stand-downs to address fall protection. Sandherr noted that AGC is now looking to establish new training programs designed to improve ladder safety.
The study also revealed that Hispanic workers are not disproportionately the victims of accidents, as some believe. As a group, Hispanics account for 24 percent of the national construction workforce and 25 percent of all construction fatalities. Sandherr said this finding was important because it indicates that construction firms need to craft safety programs targeting the entire workforce, rather than specific segments.

Sandherr added that AGC was sending the new safety report to each of its members, as well as to other construction associations and making it available online. "No wisdom or insight should be proprietary when it comes to the safety of construction workers," he said.

## SIDE TRACKS

## On the light side


"Do you want the truth accordingly to Google, Yahoo, Wikipedia . . . ?"


## 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.WPIUpdate.com

1. N I K L $\qquad$
2. S AREGE $\qquad$ A $\qquad$
3. D I R E S L $\qquad$ D _- -_ - - -
4. H E S O S $\qquad$
5. LASEDE $\qquad$ L

"Translate this into Legalese, Wilson. We want them to have to hire a lawyer to explain it."

## Did you know?

- A flock of crows is called a murder.
- Movie trailers were originally shown after the movie, which is why they were called trailers.
- The left lung is smaller than the right in order to accommodate the heart.
- Cherophobia is the fear of happiness.
- The base of the Great Pyramid of Egypt is large enough to cover 10 football fields.
- Ten percent of the salt mined in the world annually is used for treating roads in America.
- Pig Beach in the Bahamas is uninhabited, except for approximately a dozen swimming feral pigs.
- The smallest bones in the human body are found in the ear.
- Q is the only letter in the alphabet that does not appear in the name of any U.S. state.
- The only rock that floats in water is pumice.
- Melting icebergs and glaciers make fizzing noises called Bergy Seltzer.


# Transportation a winner in spending plan 

The Congressional spending plan passed in May spares transportation funding from proposed cuts, instead boosting the amount the Department of Transportation (DOT) was set to receive. The plan gave the DOT $\$ 19.3$ billion $\$ 681$ million above the original allocation.

The bill also preserved funding for Transportation Investment Generating Economic Recovery (TIGER) grants, which
were created under the Obama administration. It increased money to the Federal Transit Administration Capital Investment program and maintained spending for the Essential Air Service subsidy program that serves rural communities. Other provisions call for $\$ 16.4$ billion for the Federal Aviation Administration and added funding for grants to implement Positive Train Control Technology and other initiatives.

# FMI: Total value of construction to increase, but at slower pace 

Fails Management Institute's 2017 forecast predicts a 6 percent increase for the total value of construction put in place for the United States. With the gross domestic product most recently indicating a 2.1 percent growth in the fourth quarter of 2016, construction growth of 6 percent looks solid.

Forecasts for key sectors include an improvement of 4 percent in manufacturing for 2017, and an increase of 7 percent for that sector in 2018. Fails Management Institute projects a 3 percent growth in 2017 and 4 percent in 2018 for highway and street work.

# Dam had multiple issues that may have contributed to its failure 

An investigative team identified nearly two dozen problems that led to the failure of California's Oroville Dam earlier this year, including large variations in the thickness of the spillway's slabs. Other issues involved a lack of continuous reinforcement along slab joints, hydraulic pressures transmitted to beneath the slab, inadequate preparation of the foundation and more.

The dam began to fail when operators opened gates to release water following days of heavy rains in the Feather River watershed, which led to the erosion of the entire lower section of the spillway in addition to other damage. Estimated repair costs are nearly $\$ 500$ million, and the goal is to have the work completed by November.

## Canadian lumber tariff draws both condemnation, praise


#### Abstract

The National Association of Homebuilders slammed the U.S. Commerce Department for placing a tariff on Canadian lumber sales to the United States, saying it will cost more than 6,000 jobs, many in the construction industry. Canadian lumber officials joined the chorus, calling the tariff unfair and punitive.


The department issued a preliminary finding that Canada is subsidizing softwood-lumber sales to the United States and placed duties of up to 24 percent on future shipments. The findings followed a complaint last year from U.S. lumber producers to the Commerce Department about the subsidies. Organizations such as the U.S. Lumber Coalition praised the tariff decision.

## USDOT report highlights future infrastructure challenges

A final report from the U.S. Department of Transportation (USDOT) showed the country's current transportation system won't be able to meet future demands. Titled, "Beyond Traffic 2045," the report emphasizes the challenges the transportation sector will face in the next few decades. Its original draft was released nearly two years ago, with the final report released in early 2017.
"Beyond Traffic started a long overdue conversation about whether the transportation infrastructure will keep pace with our changing country," said former Transportation Secretary

Anthony Foxx. "The final report again shows that if we do not invest in our infrastructure, we will let conditions move us backward."

Several key topics are covered, including how we move as a population, how we move freight and how we align revenue to match transportation decisions. The USDOT also designated 18 non-profit Beyond Traffic Innovation Centers to lead research on the transportation challenges identified in the study. The full report is available at www. transportation.gov/policy-initiatives/beyond-traffic-2045-final-report.


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