

**KOMATSU®** 

# ROAD TO SUCCESS

A PUBLICATION FOR AND ABOUT ROAD MACHINERY LLC CUSTOMERS

## STEVENS CREEK QUARRY

See how exceptional products, service help Bay Area aggregate supplier expand through eight decades



# A MESSAGE FROM ROAD MACHINERY



Sloan Brooks

## ROAD MACHINERY

#### 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.

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 Road To Success 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 *intelligent* Machine Control excavators? You can learn about the latest model, the second-generation PC210LCi-11, inside. There are also articles on new large trucks, a log 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.

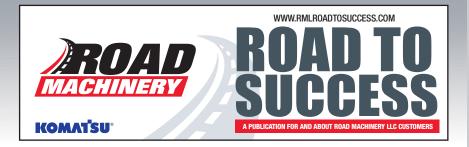
Perhaps you have heard that on June 1, 2017, John Deere announced the planned purchase of the Wirtgen Group. Since then, the management of both companies have stated that the current dealer network, including the North American dealers, will remain Wirtgen Group distributors. Rest assured that Road Machinery will continue to invest in Wirtgen products, inventory, parts and training, and strive to maintain a superior level of support for our customers.

As always, 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

Time to step up infrastructure spending



## IN THIS ISSUE

#### STEVENS CREEK QUARRY

See how this Bay Area aggregate supplier continues to thrive after eight decades in business.

#### FIRST-HAND LOOK

Discover how Road Machinery customers got hands-on experience with Komatsu's intelligent Machine Control equipment while helping to build a new reservoir.

#### **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.

#### **NEW PRODUCT**

Learn how the second-generation PC210LCi-11 excavator delivers greater efficiency as well as joystick functionality.

#### INNOVATIVE PRODUCT

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

#### **MORE NEW PRODUCTS**

Komatsu's Dash-8 HD465 and HD605 rigid-frame trucks better their predecessors with higher horsepower engines and traction control systems. Look inside for the details.



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## STEVENS CREEK QUARRY

### Exceptional products, service help Bay Area aggregate supplier expand through eight decades



Rich Voss, Owner/President



Jason Voss, **Operations Manager** 

The San Francisco/Oakland/Bay Area continues to expand rapidly, leading to a high demand for raw aggregate products. In order to build on some locations, demolition of existing structures and pavement must take place first, which creates a stream of recyclable materials such as old concrete.

Whether a project calls for raw or recycled materials, Stevens Creek Quarry supplies them. The fourth-generation family business produces aggregates from five locations throughout the Bay Area. It maintains its original quarry in Cupertino, which also does recycling; along with recycling facilities in Sunnyvale and San Jose; a quarry/recycling site in Sunol; and a sand plant in San Juan Batista.

"We have good, central locations throughout the Bay Area that allow us to serve customers with minimal trucking," said President Rich Voss, who owns Stevens Creek Quarry as well as Rich Voss Trucking. "In terms of delivery, we cover most of the Bay Area to San Francisco on the west side and Hayward on the east. We also go as far south as Gilroy."

Rich is the third-generation owner of Stevens Creek Quarry, which was founded by his grandfather, Tony Voss, in the mid-1930s. A farmer at the time, Tony moved into paving and grading before opening the quarry. He eventually sold the construction business to focus solely on aggregates and brought his son, David, on board. Rich joined full-time in 1976 and took over from David approximately 20 years later. Rich's sister, Diana Voss, is Vice President and his son, Jason, is Operations Manager.

"We started recycling about 25 years ago and have expanded that side of the business considerably in the past few years," said Jason. "Those operations accept materials from demolition and other contractors; crush and turn them into aggregate base rock and manufactured sand; and sell the resulting products all in permanent locations."

#### More than 20 products

Between recycling and traditional quarry operations, Stevens Creek Quarry produces 20-plus products from sand to boulders. It helps customers who need specialty materials as well.

"Our clients range from the homeowner, who wants a five-gallon bucket of rock to large-scale contractors looking for hundreds or thousands of tons of product," said Rich. "No matter the size or amount of material, we have the capabilities and experience to meet their specific needs."

The company has a staff of nearly 100, many of whom have been with Stevens Creek Quarry long-term. "When we had the constructioncontracting side, our employee numbers fluctuated based on the time of year and the





Stevens Creek Quarry uses three Komatsu WA500 Yard Loaders, including this one that's moving old concrete from stockpile to crusher at the company's San Jose recycling facility. "The breakout force and power are exceptional, even when running in Eco mode, which increases fuel efficiency," said Operations Manager Jason Voss.

number of projects we had," said Jason. "For the past couple of years, we have concentrated solely on the quarries and recycling, so we maintain a steady number of staff members. They are a great, hardworking group and deserve a lot of credit for our continued success."

## Komatsu loaders increase efficiency

Stevens Creek Quarry purchased its first Komatsu, a WA500 Yard Loader, in 2016. It has since added two more of the 79,000-pound-plus machines. The company uses two to feed crushing plants at the San Jose and Sunnyvale recycling facilities and the third to move materials and load trucks at the Cupertino location.

"The breakout force and power are exceptional, even when running in Eco mode, which increases fuel efficiency," said Jason. "With a load-out bucket, the loader at the Cupertino quarry will one-pass a transfer box, so it saves a couple of cycles compared to what we ran before. This is a huge time-saver and lowers our owning and operating costs. We also appreciate how quiet they are."

The Vosses called on Road Machinery & Supplies Account Manager Dennis Belli to purchase the loaders. Road Machinery covers scheduled maintenance for the first 2,000 hours or three years under the Komatsu CARE program. "I like that their technicians do the work because they are knowledgeable and experienced with Komatsu products," said Jason. "They call us and schedule it for a convenient time. Service like that is a big factor in our equipment-buying decisions. Dennis and Road Machinery have been great to work with."



Road Machinery Account Manager Dennis Belli (left) meets with Stevens Creek Quarry Operations Manager Jason Voss at Stevens Creek's Cupertino location. "They call us and set it up for a convenient time," said Voss of the Komatsu CARE program, which covers scheduled services for three years or 2,000 hours with work performed by Road Machinery technicians. "Service like that is a big factor in our equipment-buying decisions. Dennis and Road Machinery have been great to work with."

#### Potential expansion, same focus

The Vosses are always on the lookout for new locations and opportunities. This ongoing pursuit is one key to the growth of Stevens Creek Quarry.

"If we weren't on our toes, we may not have secured some of the sites we have now when they became available," said Rich. "Expansion is something we seek, so we keep scouting for places to put new recycling operations or that may have natural aggregate resources. Other factors in our success are old-fashioned hard work and a focus on exceptional customer service. Those have been our hallmarks for nearly 80 years, and that will never change."







### **AUTOMATED EVENT**

### Road Machinery customers help build reservoir with Komatsu intelligent Machine Control products

Road Machinery recently gave customers an opportunity to try out Komatsu intelligent Machine Control excavators and a dozer on an actual jobsite. The two-day demonstration drew several companies to Bakersfield where they helped prepare a new reservoir for a future almond orchard.

The project involved constructing a three-anda-half-acre reservoir that's designed to hold water for irrigating 80-acres of almond trees. The companies hired to build the reservoir and manage the site, Water Associates and Bennett & Bennett Irrigation Systems, contacted Road Machinery about renting earthmoving equipment for the project.

"It gave us a prime opportunity to show customers how Komatsu intelligent Machine Control equipment can increase their production as well as save time and money," said Road Machinery Account Manager Matt Brannon,

who helped organize the demonstration. "With permission from Bennett & Bennett and Water Associates, we invited customers to come out, run the machines and help build the reservoir."

Water Associates sent Road Machinery a CAD drawing of the reservoir's plans. Road Machinery's Erich von Schlieder, Senior Technical Consultant, intelligent Machine Control, built a

Continued . . .



Komatsu intelligent Machine Control excavators are used from rough-cut to finish grade to semi-automatically limit overexcavation and trace a target surface. Once the target elevation is reached, no matter how hard an operator tries to move the joystick to lower the boom, the excavator won't allow it. Operators can see their progress on the in-cab monitor.



## Technology ensures productive dozing

... continued

What customers say about intelligent Machine Control equipment



"With the integrated system you can definitely put inexperienced operators in the machine, and they can dig to grade. It's very smooth. You just drag the bucket back, it smooths out and you're right there on grade."

– George Tyler, LaLonde Equipment Rental, of the PC360LCi-11 excavator



"The PC210LCi is very smooth. It also has a lot of power. I like the GPS integration. It does a great job and is an excellent machine."

> - Greg Evans, Bejo Seeds Inc.



"It's comfortable, powerful and with the intelligent system you know exactly where you are. The blade is automatic, and within a few minutes you can feel how the dozer operates."

Luis Moscoso,
 Dragados/Flatiron,
 of the D65PXi-18 dozer

model from the CAD file that was downloaded into the machines to use for automated control.

"I created a model for the reservoir and input some information that represented trenches for piping so that customers could see the



Road Machinery's Matt Brannon (left) meets with Phil Yader of Ground Breakers Construction during the demonstration in Bakersfield.



Customers help shape a reservoir with Komatsu *intelligent* Machine Control products, including this D65PXi-18 dozer.

accuracy of both the excavators and dozers," said von Schlieder.

#### Integrated grade control

Road Machinery delivered Komatsu PC210LCi-10 and PC360LCi-11 excavators as well as a D65PXi-18 dozer to the site. All three machines feature factory-integrated GPS grade control that eliminates the need for masts and cables. Excavators can be used from rough-cut to finish grade with simple guidance to semi-automatically limit overexcavation and trace a target surface. Once the target elevation is reached, no matter how hard an operator tries to move the joystick to lower the boom, the excavator won't allow it.

Dozers can also be used from rough-cut to finish grade. Once engaged, the system automatically starts the cut and lowers the blade to grade in a typical dozing pass. If the load increases to maximum capacity, the blade automatically raises to minimize track slip, ensuring productive dozing.

"Customers gave us great feedback on the machines," said Brannon. "Our goal was to offer an idea of what *intelligent* Machine Control products can do for their businesses and convey that Road Machinery has the excavators and dozers in its rental fleet. If customers are interested, they can call any of our locations to obtain more information. This was a successful event, and we appreciated that customers took time out to stop by, check out the machines and have lunch with us."

(L-R) Luis Moscoso, Vince Colvin and Ruben Rubal with Dragados/Flatiron Joint Venture take time for a photo with Road Machinery's Erich von Schlieder, Matt Brannon, Chuck Brown and Donnie Brooks.





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RT14

RT14R



## **NEW PATH TO CONSTRUCTION JOBS**

## Industry finds creative solutions to recruit millennials, address employee shortage

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

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.





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

Continued . . .

## Incentives, flexibility are key factors

... continue

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.



"If we can't get students out to the industry, our goal is to bring the industry (to them)," explained Nicole Green, Marketing and Recruiting Coordinator for the MTSU concrete-industry program, in an April 2017 interview with online media outlet, Construction Dive.

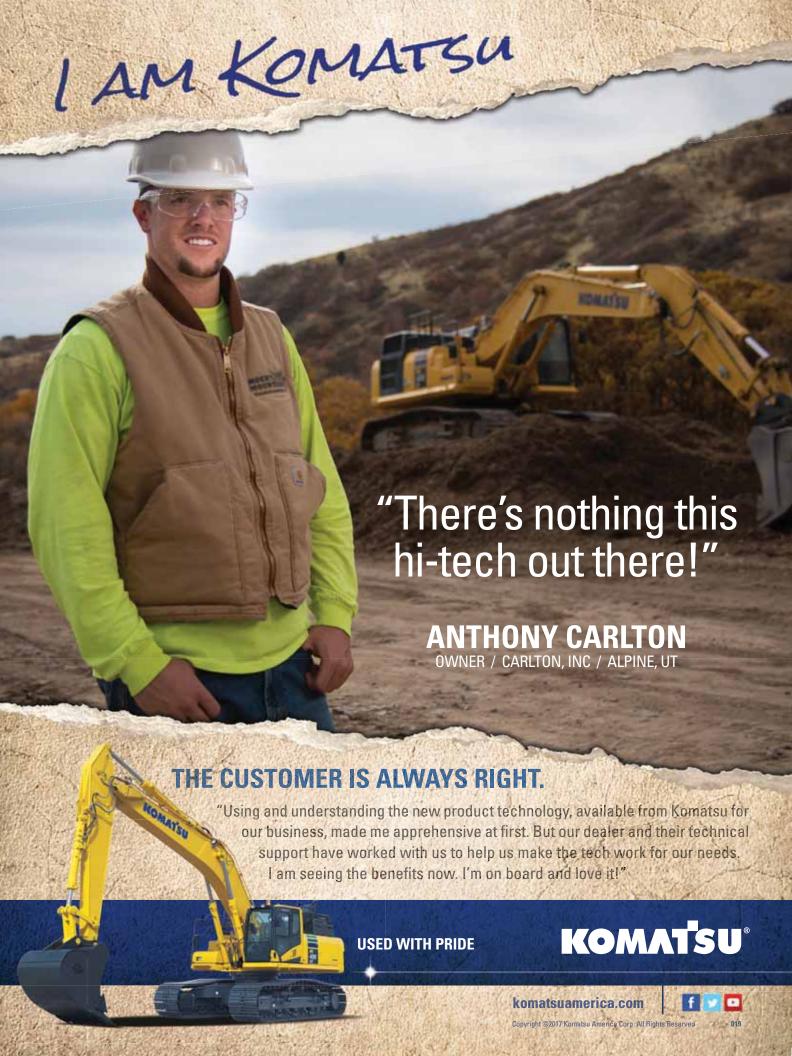
Third-party entities are stepping up to meet the construction-industry recruiting challenge as well. For example, Extreme Sandbox specializes in the use of construction equipment for entertainment purposes, with packages typically geared toward fun outings for adults. However, it also addresses the worker shortage through its high school heavy-equipment camps. Owner Randy Stenger refers to the camps as "edu-tainment" sessions to familiarize kids with the construction industry and generate excitement about careers in the field. (See related article in this issue about heavy-equipment camps at Extreme Sandbox.)

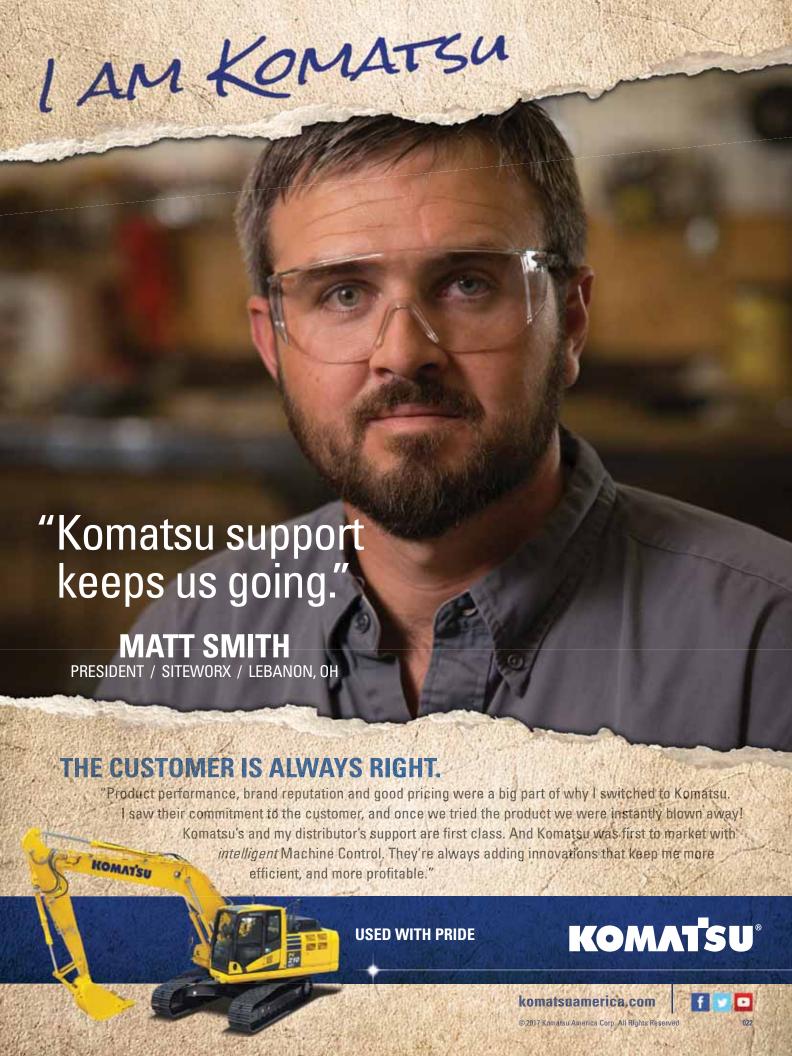
Individual companies are also taking matters into their own hands. In an effort to boost recruiting, some have begun sponsoring high school graduates, offering them summer internships while paying the expenses for a portion or all of their two-year college programs. For graduates planning to work in construction, but who don't want to attend college, firms are incorporating more training and accepting that the learning curve for new hires may be steeper than it was 20 years ago. Employers see sponsorships and extended training as viable methods to build loyalty with new employees, while also ensuring that they have well-qualified workers.

#### What does the future hold?

The path that tomorrow's construction workers take to employment will look quite different from the generations that preceded them. To solve this critical issue, both future employees and employers need to change their thinking to find answers.

There are solutions. From technical education programs backed by corporate manufacturers, to local contractors allocating more time and funds to train new hires, the industry is taking steps to recalibrate its approach and strengthen its future.





## **SECOND-GENERATION PC210LCi**

## New *intelligent* Machine Control excavator offers improved efficiency, joystick functionality

When Komatsu first introduced *intelligent* Machine Control excavators, it started with a PC210LCi-10. Two years later, it brings the second generation to market with the PC210LCi-11 that leverages the proven track record of its pioneering predecessor while adding eagerly awaited machine-control-joystick functionality.

Like other Komatsu *intelligent* Machine Control excavators, the PC210LCi-11 has factory-integrated technology. It offers up to a 63-percent improvement in efficiency compared to a standard PC210LC-11 and traditional stake-plus-grade-checker method.

### Reduced costs through work function automation

The PC210LCi-11 saves time and money by minimizing the need and expense of grading dozers and grade checkers, as well as the costs associated with overexcavating, such as extra materials, fuel and time.

The machine has full, 3-D Global Navigation Satellite System capabilities that are tied into machine hydraulics. This allows actual automation of work equipment functions, not just the indication/manual-only operation typically found in aftermarket systems.

Advanced features of the PC210LCi-11 include a facing-angle compass and minimum-distance bucket control that deliver in a simple, intuitive manner. It is also equipped with Auto Grade Assist, Auto Stop Control and Minimum Distance Control, which contribute to the machine's ability to effectively reach target elevation without overexcavating.

"With increased productivity, jobs can be completed on-time, under budget and with less equipment," said Sebastian Witkowski, Komatsu Product Marketing Manager. "The PC210LCi-11 is productive and precise enough to be a fixture on jobsites ranging from basements and foundation pads to utility work. In addition to the efficiency that machine owners look for, the added convenience of the machine-control-joystick functionality should make operators happy, too." ■



Sebastian Witkowski, Komatsu Product Marketing Manager

## Quick Specs on Komatsu's PC210LCi-11 ExcavatorModelNet HorsepowerOperating WeightBucket CapacityPC210LCi-11165 hp50,706 - 51,599 lb0.89 - 2.56 cu yd

Komatsu's new *intelligent* Machine Control PC210LCi-11 features machine-control-joystick functionality. Industry-leading technology offers up to a 63-percent improvement in excavating efficiency compared to a standard PC210LC-11 and traditional stake-plusgrade-checker method.



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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.

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## **NEW PRODUCTION EXCAVATOR**

## PC650LC-11 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  $NO_x$  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." ■



Justin Lantin, Komatsu Product Marketing Manager

Quick	Quick Specs on Komatsu's PC650LC-11 Excavator						
Model	<b>Net Horsepower</b>	<b>Operating Weight</b>	<b>Bucket Capacity</b>				
PC650LC-11	436 hp	140,4567-145,284 lb	2.05-4.98 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.





## **RENTAL MACHINES**





#### **KOMATSU** ARTICULATED TRUCKS

MODEL	MAX WEIGHT	PAYLOAD	CAPACITY	TRAVEL SPEED	H.P.	TIER
HM300	116,823 lbs	30.9 TONS	22.4 yd	36.4 mph	332	T4f
HM400	162,597 lbs	44.1 TONS	31.4 yd	34.7 mph	469	T4f

#### KOMATSU CRAWLER DOZERS

MODEL	WEIGHT	BLADE	CAPACITY	<b>BLADE WIDTH</b>	H.P.	TIER
D39EX*	20,834 lbs	PAT	2.89 yd	8'11"	105	T4f
D39PX	21,804 lbs	PAT	3.01 yd	9'9" LGP	105	T4f
D51EX*	28,484 lbs	PAT	3.5 yd	10'0"	130	T4f
D51PX	29,145 lbs	PAT	3.8 yd	11'0" LGP	130	T4f
D61EX*	37,237 lbs	PAT	4.5 yd	10'9"	168	T4f
D61PX	41,734 lbs	PAT	5.0 yd	12'8" LGP	168	T4f
D65EX	47,355 lbs	PAT/Sigma	5.9 yd	11'2"	205	T4f
D65PX	49,315 lbs	PAT/Sigma	5.78 yd	13'2" LGP	205	T4f
D65EXi	49,559 lbs	PAT/Sigma	5.78 yd	11'2"	205	T4f
D155	87,100 lbs	Sigma	12.3 yd	13'4"	354	T4f
D275	113,604 lbs	Sigma	17.9 yd	14'1"	449	T3
D375	157,940 lbs	Sigma	24.2 yd	15'5"	610	T3

<sup>\*</sup>Machine is available with integrated GPS controls.

#### **KOMATSU** HYDRAULIC EXCAVATORS

MODEL PC88 PC138 PC170 PC210 PC210i HB215 PC228 PC240 PC290 PC360 PC490	WEIGHT 18,558 lbs 31,504 lbs 37,740 lbs 48,722 lbs 48,950 lbs 48,175 lbs 54,405 lbs 55,129 lbs 70,702 lbs 80,547 lbs	DIG DEPTH 15'2" 18'0" 20'6" 21'9" 21'9" 21'9" 21'9" 22'8" 22'8" 24'3" 30'2"	CAPACITY .37 yd .34 - 1.0 yd .48 - 1.24 yd .66 - 1.22 yd .66 - 1.57 yd .66 - 1.57 yd .66 - 1.57 yd .76 - 1.85 yd .76 - 1.85 yd .76 - 1.85 yd .89 - 2.56 yd	DIG FORCE 13,780 lbs 18,300 lbs 24,470 lbs 29,762 lbs 29,762 lbs 31,080 lbs 31,085 lbs 34,171 lbs 51,150 lbs 53,790 lbs	H.P. 55 92 115 165 158 139 148 177 196 257	TIER T4f T4f T4f T4f T4f Hybrid T4f T4f T4f T4f
PC490 PC800	109,250 lbs 188,670 lbs	24 3 30'2" 28'3"	1.5 - 4.0 yd 2.5 - 6.0 yd	53,790 lbs 72,750 lbs	359 487	T4f T3





#### **KOMATSU** MOTOR GRADER

MODEL	WEIGHT	MOLDBOARD	DRIVE	H.P.	TIER
GD655	37.346 lbs	14'0"	4WD	218	T4f

#### **KOMATSU** WHEEL LOADERS

MODEL	WEIGHT	TIPLOAD	CAPACITY	BREAKOUT	H.P.	TIER
WA270	28,531 lbs	20,216 lbs	3.0 yd	29,487 lbs	149	T4F
WA320	33,731 lbs	21,186 lbs	3.5 yd	36,310 lbs	165	T4F
WA380	40,532 lbs	29,630 lbs	4.0 yd	35,495 lbs	191	T4F
WA470	53,352 lbs	29,630 lbs	5.0 yd	43,163 lbs	272	T4F
WA500	79,802 lbs	54,326 lbs	8.0 -9.8 yd	51,150 lbs	353	T4F
WA600	118 385 lbs	67 200 lbs	10.2 vd	87 230 lbs	527	T4F





#### COMPACTION ROLLERS

MODEL	TYPE	SIZE	CLASS	OPERATING WEIGHT	H.P.	TIER
H7iPB	PAD	66"	6-8 TON	15,542 lbs	91	T4i
H7iS	SM00TH	66"	6-8 TON	15,542 lbs	91	T4i
H11iPB	PAD	84"	12-14 TON	23,975 lbs	134	T4i
H11iS	SM00TH	84"	12-14 TON	22,730 lbs	134	T4i



#### HAMM ASPHALT ROLLERS

~						
MODEL	TYPE	SIZE	CLASS	OPERATING WEIGHT	H.P.	TIER
HD12	VV	48"	3-5 TON	5,964 lbs	31	T4i
HD14	VV/VT	56"	4-5 TON	7,651 lbs	46	T4i
HD110	VV/V0	66"	12-15 TON	22,388 lbs	134	T4i
HD120	VV/VO	78"	15-17 TON	28,164 lbs	134	T4i
HD140	VV/VO	84"	15-17 TON	29,310 lbs	124	T4i



#### PNEUMATIC ROLLERS

MODEL	CLASS	OPERATING WEIGHT	H.P.	TIER
GRW280	8 WHEEL	32,926 lbs	134	T4i
HD14 TT	6 WHEEL	7,651 lbs	47	T4i



#### NPK HYDRAIILIC BREAKERS

	III DILAGEIG DIL		
MODEL	IMPACT ENERGY CLASS	<b>EXCAVATOR CLASS</b>	WEIGHT
PH4	1300 ft lbs	PC88	1,064 lbs
GH6	2000 ft lbs	PC138	2,150 lbs
GH7	2500 ft lbs	PC170	2,900 lbs
GH10	4000 ft lbs	PC200-290	4,200 lbs
GH12	5500 ft lbs	PC290	5,650 lbs
GH15	8000 ft lbs	PC300-360	6,800 lbs
GH18	12.000 lbs	PC400-490	7.800 lbs



#### **MATERIAL PROCESSORS & SHEARS**

Model	<b>JAW OPENING</b>	JAW TYPE	<b>EXCAVATOR CLASS</b>	WEIGHT	MAX CRUSH
M-28G	35.8 in	Pulerizing	PC200	6,850 lbs	125 tons
M-28K	25.1 in	Shearing	PC200	6,900 lbs	133 tons
M-35G	38.6 in	Pulerizing	PC300	7,544 lbs	127 tons
M-35K	22.8 in	Shearing	PC300	7,831 lbs	125 tons



#### drumcutters DRUM CUTTERS

Model	WIDTH	WEIGHT	<b>CUTTING FORCE PSI</b>	<b>EXCAVATOR CLASS</b>	PICKS
ER600	30.7 in	1,800 lbs	6,800-8,100	22-40 K	48
ER650	31.0 in	2,200 lbs	7,300-10,900	33-55 K	48
ER1500	35.0 in	3,858 lbs	9,100-15,700	44-88 K	48

#### **General Rental Information**

All rates are 28 day billing cycle (one month). Rates reflect 160 hr per month / 70% overtime rate. All units with GET will be shipped with minimum 50% wear. All units will be subject to excessive tire wear and or tire damage. All units are FOB Road Machinery Facilities



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Phoenix 480.545.2400 Prescott 928.778.5621 Tucson 520.623.8681 Corporate 602.252.7121









HD465-8

HD605-8

### **NEW RIGID-FRAME TRUCKS**

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

HD605-8

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 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." ■

724 hp



Rob McMahon, Komatsu Product Marketing Manager

69.4 ton

## Quick Specs on Komatsu's HD465-8 and HD605-8 ModelsModelNet HorsepowerGross Vehicle WeightPayload CapacityHD465-8724 hp228,179 lb61 ton

252,870 lb

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.







Contractors demand versatility and performance from their paver. That's why, from city streets and reservoirs to parking lots and bike trails, the Carlson CP100 is the contractor's choice of commercial paver. With its heavy-duty, highway class build, class-leading 8'-15' screed, and the superior support of Road Machinery, the CP100 gives contractors greater versatility across a wider range of jobsites while delivering best-in-class paving performance.



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Discover more

## **INCREASED POWER, COMFORT**

## New PC290LL-11 log loader delivers high performance in demanding applications

Every forestry business appreciates opportunities to improve its operations, and the new Komatsu PC290LL-11 log loader provides just that. Available in either a 40-foot-reach, live heel log loader or 34-foot-reach, road builder configuration, the PC290LL-11 delivers high performance in demanding logging applications. (Komatsu plans to introduce a processor configuration in the future.)

"We designed the PC290LL-11 by first identifying and then meeting customers' needs," stated Steve Yolitz, Manager, Marketing Forestry for Komatsu America. "For example, in terms of productivity, it has increased drawbar pull. Regarding operator comfort, it has electroproportional control, or EPC, thumb-actuated buttons for precise attachment function control, as well as all LED lighting, which can extend the work day."

The PC290LL-11 log loader features powerful PC360-class final drives that generate 64,250 pounds of drawbar pull for excellent shovel logging and rough-terrain performance. A rugged PC390-class swing motor and drive deliver high swing torque for superior log loading and road building performance.

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

#### High-capacity cooling, cab choices

A new, high-capacity cooling system utilizes wide-core cooling fins for the radiator,

hydraulic oil cooler and a charge air cooler for improved performance and reliability. The heavy-duty, one-quarter-inch-thick cooler air-intake door is waffle-screened and sealed to reduce debris accumulation and cleaning time.

The modern, fully certified cab is more comfortable with lower-profile, pilot proportional control levers for the boom, arm and heel functions. The LCD monitor has a split-display mode, showing both a rear-camera view and key machine gauge data at the same time. The cab is available with a 48-inch hydraulic tilt or 7-inch, fixed-cab riser.

"The initial customer feedback has been very positive," said Yolitz. "The PC290LL-11 is definitely meeting and exceeding their needs as we had planned"



Steve Yolitz, Manager, Marketing Forestry, Komatsu America

Quick Specs on Komatsu's PC290LL-11 Log Loader					
Model	Model Net Horsepower Operating Weigh		Reach		
PC290LL-11*	196 hp	89,730 lb	40 ft		
PC290LL-11**	196 hp	82,230 lb	34 ft		

\*Live heel, log loader configuration \*\*Road builder configuration



The new PC290LL-11 is available in either a 40-foot-reach, live heel log loader or a 34-foot-reach road builder configuration. It features a new, high-capacity cooling system for improved performance and reliability.



### **TEST-DRIVING THE FUTURE**

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



Tom Suess, Komatsu Director of Training and Publications

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."

Using Komatsu's Worksite VR operator-training simulator, this customer completes tasks on a computer-generated excavator.

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





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."

### **WE LISTEN AND LEARN**

## Rich Smith says direct customer engagement leads to productive changes in Komatsu machinery

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 Interim Dash-10s. When the Interim machines



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."

## Helping customers be productive and profitable

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

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."





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."

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

understand the markets and our customers' needs."



economy and production. For example, the PC360LC-11 is now approximately 12 percent more productive than its predecessor while still being quite fuel-efficient.

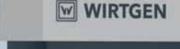
Another example is the introduction of an Advanced Joystick Steering System (AJSS) in our WA500 wheel loaders, something not previously available in that size of machine. Customers told us they sometimes use it in load-and-carry applications, and AJSS allows them to maximize productivity and minimize 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 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.

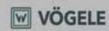


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### **'EDU-TAINMENT'**

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



Odessa Perry, Career Development Coordinator



Randy Stenger, Owner

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 heavy-equipment 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."

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.





## **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



Mike Hayes, Komatsu Director of Distributor Development

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 sponsor students, see return-on-investment

. . . continued



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." ■

(L-R) Instructor Hector Garrido-Guevara looks on as students Roby Herchenhahn and Christian Harris perform a lab in the OSUIT Komatsu ACT program. "I was as a technician, and I wish there was a program like this when I started," said 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."



### 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.



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### REPAIR AND REBUILD

## Road Machinery's 7th Street Shop keeps equipment running by making components like new again



Tom DeLoach, Technical Consultant/ Quality Control



Ted Alonzo, General Manager, Product Support & Remanufacturing

Throughout the course of their lives, mining trucks haul millions of tons of material. They are built to withstand rugged conditions, and it's not uncommon for them to run tens of thousands of hours. Even the most durable, however, need to have components remanufactured from time to time, and Road Machinery's 7th Street Shop caters to those situations.

Located close to Sky Harbor Airport in downtown Phoenix – and near Chase Field, home of the Arizona Diamondbacks – the shop consists of multiple entities, including the Electrical Rotating Department (ERD), Engine Overhaul Department (EOD) and Transmission Department. ERD has a staff of approximately 20 people who focus on refurbishing and rebuilding electrical components of some of the largest mining trucks that Komatsu and other manufacturers produce.

Bill Foster works on an engine in the Engine Overhaul Department at Road Machinery's 7th Street Shop.



"Komatsu equipment is Road Machinery's main manufacturing brand, but we service all makes and models," explained Technical Consultant/Quality Control Tom DeLoach. "ERD specializes in complete overhauls of wheel motors, alternators, grid blowers and generators. We are a GE- and Timkin-authorized rebuild and repair facility. We also have some refurbished parts available in case customers need a replacement, and they want to do the work themselves."

DeLoach pointed out that not all parts of a component necessarily need to be replaced when they are brought to the shop.

"We qualify components so that we know what's reusable and what's not," he said. "If a part or parts need replacement, we take care of it. If it can be refurbished or made to run to the next rebuild cycle, that's what we do. We make sure any needed replacement parts are from the original equipment manufacturer (OEM) for quality assurance."

#### **Dyno testing**

Road Machinery has been overhauling and remanufacturing diesel engines for 35 years. Each component is completely disassembled, cleaned and inspected, and all sub-assemblies are rebuilt or replaced. Depending on the size of the engine, it takes from 200-450 hours to complete the entire process, reported DeLoach.

Major castings such as cylinder blocks, heads and crankshafts are magnafluxed, measured and machined to OEM specifications. All rebuilt engines are dyno tested to ensure optimal performance. Road Machinery recently updated and upgraded its dyno room so that it can test Tier 4 Final engines.



Ken Durham places a spindle from a Komatsu 930E haul truck into a stand in preparation for rebuilding the component.

"Engine and transmission work goes beyond mining trucks," said DeLoach. "We work on those items for wheel loaders, dozers and other machines up to 3,750 horsepower. With the dyno room we can test an engine's horsepower by putting a load on it."

Road Machinery has also fixed transmissions for almost as long as it has worked on engines. The shop is fully equipped to remanufacture, repair and test transmissions, differentials, final drives and torque converters.

#### **Emergency service**

"We also have welding and fabrication capabilities, so we are a full-service shop that can handle a wide variety of needs," shared Ted Alonzo, General Manager, Product Support & Remanufacturing. "Most often, components and other items are scheduled for work in advance, but we do provide emergency service. Fortunately, it doesn't happen often, but a crew can be assembled quickly if needed."

An emergency crew would consist of several members of the facility's staff. Normally, the shop runs two shifts a day with a total of approximately 25 technicians. Tenure averages around 25 years.

"We have some of the most experienced and highly skilled personnel in the area, if not the industry," noted Alonzo. "They know how to get things done in the most efficient, effective manner possible and make





Josh Greener replaces electrical componentry in an alternator connection box during an overhaul.

old components like new again. That keeps customers' downtime to a minimum and reduces overall ownership and operating costs, which is our goal."

## **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.



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## **USED EQUIPMENT**

I OR GALL						
YR	MODEL	HRS	STK#	PRICE		
WHEEL LOADERS						
2012	Komatsu WA380-7	4,169	10038	\$125,000		
2014	Komatsu WA380-7	2,505	10434	\$139,500		
2015	Komatsu WA270-7	2,489	80743	\$89,500		
2012	Komatsu WA320-6	3,361	A35429	\$89,000		
2014	Komatsu WA500-7	4,851	10373	\$179,000		
2012	Komatsu WA600-6	6,680	60891	\$275,000		
2005	Volvo L150E	12,169	V8554	\$45,000		
EXCAVATORS						
				****		

EXCAVATORS					
2015	Komatsu PC138UCLC-10	1,244	42152	\$125,000	
2015	Komatsu PC138USLC-10	1,194	42160	\$125,000	
2013	Komatsu PC240LC-10	1,828	A20311	\$135,000	
2013	Komatsu PC290LC-10SLF	1,921	A25352	\$165,000	
2014	Komatsu PC360LC-10SLF	956	A33634	\$299,000	
2012	Komatsu PC360LC-10	3,263	70043	\$157,500	

DOZERS					
2013	Komatsu D51EX-22	1,672	B12778	\$145,000	
2015	Komatsu D65PXi-18	2,250	90023	\$245,000	

ARTICULATED TRUCKS					
2012	Komatsu HM300-2	3,304	3155	\$195,000	
2012	Komatsu HM400-3	5,761	3223	\$219,500	

PAVING/COMPACTION					
2013	Hamm 3412	705	H180.2598	\$49,500	
2013	Hamm GRW2801-25	1,491	H212.0006	\$72,500	
2013	Hamm 3307P	425	H189.1106	\$48,000	
2013	Hamm 3412	1,219	H180.2638	\$46,000	
2013	Hamm HD14VV	319	H201.1793	\$31,500	
2013	Hamm 3412	1,784	H180.2524	\$43,000	

#### **Change Service Requested**



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