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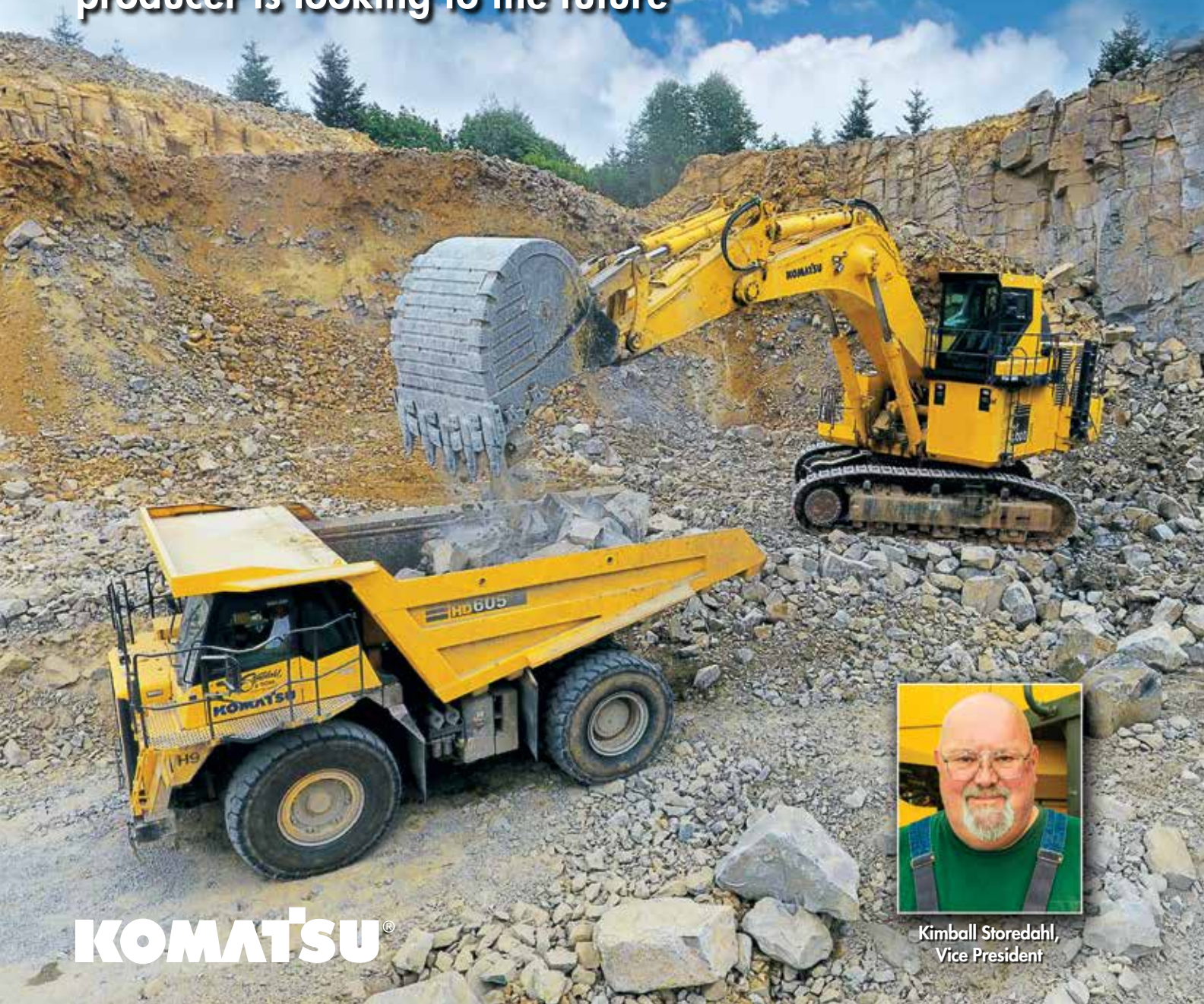
A PUBLICATION FOR AND ABOUT OUR CUSTOMERS IN THE NORTHWEST

UPDATE

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J.L. STOREDAHL & SONS, INC.

Read why this long-time Washington aggregate producer is looking to the future



Kimball Storedahl,
Vice President

KOMATSU®



Brian Sheridan

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all sizes**

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Dear Valued Customer:

Komatsu's innovation stands out, regardless of machine size. Case in point, this issue of your Modern Machinery Update magazine highlights a couple of ways that Komatsu places itself at the forefront of technology at different ends of the equipment spectrum.

One is Komatsu's Autonomous Haulage System (AHS), which celebrates its 10th anniversary this year. The driverless trucks remain on course, thanks to high-precision GPS and other systems. During the past decade, these massive machines have successfully moved more than 1.5 billion tons of material efficiently and safely in mines throughout the world.

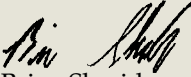
Mines typically pair AHS trucks with large excavators. On the other hand, construction companies may rely on smaller machines such as the new PC238USLC-11 tight-tail-swing excavator. Its swing radius is the same as the counterweight, so it's well-suited for applications with limited space.

In between those two machines is Komatsu's PC390LCi-11 that offers exceptional stability and lift capacity while providing the technological edge of *intelligent* Machine Control. It's a great fit for trenching and heavy applications. Read about both the PC390LCi-11 inside.

I also encourage you to discover the ways that R&T Ellis is saving time and money with its *intelligent* Machine Control products and see how Madden Materials worked with Komatsu's Business Solutions Group to reduce inefficiencies and lower costs. There is much more to check out in this issue as well.

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

Sincerely,
Modern Machinery


Brian Sheridan
President



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Petropavlovsk-Kamchatsky, Russia
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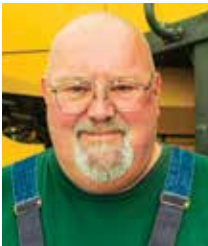
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J.L. STOREDAHL & SONS, INC.

Washington aggregate producer celebrates 50th anniversary while looking to the future



Kimball Storedahl,
Vice President

Jerry Storedahl made the assumption in 1968 when he founded J.L. Storedahl & Sons, Inc. that his boys, Kimball and Kevin, would join him full time one day. His hunch proved correct nearly a decade after he opened for business.

"Of course, Kevin and I worked part time for our dad growing up," recalled Kimball. "We spent a lot of time rolling around in the gravel underneath trucks greasing them, adjusting brakes and doing whatever was necessary to keep the trucks rolling. It definitely put us on the path to where we are today."

Kimball started his career with J.L. Storedahl & Sons after graduating from high school in 1979.

Kevin did the same a year later. As the company celebrates its 50th anniversary, the brothers are Vice Presidents. Their mother, Jeannie, is Secretary and Jerry remains President of the Kelso, Wash.-based company that he started with just two used trucks.

"In the beginning, Dad only hauled commodities," Kimball explained. "In the mid-1970s, the trucking industry went through a major reconstruction due to deregulation. A lot of companies went out of business. It wasn't as lucrative anymore, and we started looking for other options."

One opportunity knocked, offering the chance to get involved in a rock pit in Kelso, and the Storedahls opened the door. At first, they hired outside companies to take care of all the crushing, but within a couple of years, they purchased their first piece of equipment and set about producing materials themselves.

"The timing was perfect," said Kimball. "There was solid demand for aggregates in this area, so it didn't take long for us to grow. In a relatively short time, we had another pit as well as a second portable plant, and we have continued to expand since."

High production with KPI-JCI

J.L. Storedahl & Sons currently has five operating quarries and two sand pits, in addition to a sand and gravel operation, all located in southwestern Washington. It has two stationary and three portable plants and runs more than 40 trucks to haul and deliver to a wide range of customers. Kimball said the company concentrates on construction aggregates such as road bases, but its materials range in size from sand to riprap and jetty stone.

KPI-JCI equipment, including Pioneer 3552 primary jaw plants and Kodiak K500+ cones used in secondary and tertiary positions are part of J.L. Storedahl & Sons' operation. "KPI-JCI equipment gives outstanding production and efficiency," said Vice President Kimball Storedahl.



▶ VIDEO





This J.L. Storedahl & Sons operator loads a Komatsu HD605 haul truck with a PC2000 mining shovel. The company also runs several other Komatsu excavators, wheel loaders and trucks. "Every piece is critical to maintaining our production, and Komatsu always delivers excellent uptime," said Vice President Kimball Storedahl. "We can count on it to run day in and day out without breaking down, and some of our Komatsu equipment has a high number of hours. That says a lot about the quality that's built into them."

"We make approximately 20 standard products," Kimball noted. "Additionally, we fulfill a large number of custom orders. I think we have garnered a reputation in the industry as the go-to company for those, because any time a project designer, engineer or architect throws a curve ball into the plan, we do our best to accommodate them. In total, we produce roughly 2 million tons of product per year."

To crush and size standard as well as custom materials, J.L. Storedahl & Sons relies heavily on KPI-JCI crushing and screening equipment, including two Pioneer 3552 primary jaw plants and four Kodiak K500+ cones used in secondary and tertiary positions. "We have had a direct relationship with KPI-JCI for some time and helped with research and development on the K500+ cones a few years ago," said Kimball. "KPI-JCI equipment gives outstanding production and efficiency."

At the time J.L. Storedahl & Sons tested the crushers, it was also working with KPI-JCI's AggReCon West (a division of Astec Industries, the parent company of KPI-JCI), which Modern Machinery purchased in 2017. The Storedahls rely on Territory Manager Dan Kipp, who recently helped their firm add an Atlas Copco (Epiroc) SmartRoc T45-10 drill.

"Our newest crushing equipment was acquired through Modern, with whom we had already been working to purchase Komatsu machinery for many years," said Kimball. "We are probably the largest buyer of parts from their Portland branch, and they are great at knowing what our needs and expectations are and exceeding them. Dan and everyone at Modern are very knowledgeable about matching equipment to best fit our operations, and they always make us feel like we are their most important customer."

"We are proud of our long-standing relationship with the Storedahl family," said Modern Machinery President Brian Sheridan. "Success is driven by outstanding individuals who value hard work and are dedicated to their craft. That certainly epitomizes the Storedahls, and we greatly appreciate their continued trust in Modern."

Decades of Komatsu

J.L. Storedahl & Sons began using Komatsu equipment in the 1980s – when the company also performed earthwork – with the purchase of a PC300 excavator that is still used for hammering rock. Throughout the years, the firm added PC400, PC650 and PC750 models as



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Continued . . .

Planning for the next 50 years

... continued

well as a PC2000 mining shovel. Shot rock is loaded onto HD465 and HD605 rigid-frame haul trucks for transport to the crushers. Finished product is moved with Komatsu wheel loaders, including two WA500-8 Yard Loaders and additional WA500s, WA600s and a WA450.

“Every piece is critical to maintaining our production, and Komatsu always delivers excellent uptime,” said Kimball. “We can count on it to run day in and day out without

breaking down, and some of our Komatsu equipment have a high number of hours. That says a lot about the quality that’s built into them.”

Next generation

In the next few years the Storedahls look to assemble a more late-model fleet. They also want to continue building material reserves. Kimball estimates that J.L. Storedahl & Sons currently has 50 years available, but he’s actively seeking ways to extend well beyond that time frame.

“When we started quarry operations 40-some years ago, there were seven or eight companies in Cowlitz County, where Kelso is located, and now we are one of only two left,” Kimball emphasized. “We kept seeking additional sources of material, and it paid off. It’s our belief that will continue to be the case.”

That would bode well for the third generation in the business, which is already firmly entrenched at J.L. Storedahl & Sons. Kimball’s children – Jason, Jamie, Bo and Ben – and Kevin’s kids – Nicole, Stephanie, Aaron and Erik – chose to join the company and are involved in sales, accounting, transportation, production and service roles.

“All had the opportunity to do something elsewhere, but decided this is where they want to be,” said Kimball. “That’s a great source of pride for us, and it sets J.L. Storedahl & Sons up well for the future.” ■

J.L. Storedahl & Sons Vice President Kimball Storedahl (left) meets with Modern Machinery Territory Manager Dan Kipp. “Dan and everyone at Modern are very knowledgeable about matching equipment to best fit our operations, and they always make us feel like we are their most important customer,” said Kimball.



J.L. Storedahl & Sons recently acquired this Atlas Copco (Epiroc) SmartROC T45-10 to drill blasting holes.

Komatsu wheel loaders are a staple for J.L. Storedahl & Sons’ fleet, including newer WA500-8 Yard Loaders.

▶ VIDEO





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FULL SHOWCASE

Demo Days makes it easy for customers to test latest Komatsu equipment

More than 250 current and prospective customers attended Komatsu's spring Demo Days at its Cartersville Customer Center in Georgia. Mornings began with a tour of the Chattanooga Manufacturing Operation, where many of the Komatsu excavator models are assembled. After lunch, attendees listened to a brief informational tech session before heading to the recently renovated demonstration site to check out the latest equipment that Komatsu has to offer.

"The Demo Days event is a great opportunity for customers to see the facility and operate a wide range of Komatsu products," explained Director of Training and Publications Bill Chimley. "Customers can get first-hand experience with the newest *intelligent* Machine Control capabilities as well as a variety of our other equipment with experienced staff readily available to answer any questions."

New excavator included

The event showcased the full lineup of *intelligent* Machine Control dozers and excavators, including the new PC390LCi-11 excavator. In total, 26 machines were available for

customers to operate, including wheel loaders, haul trucks, excavators, dozers and a motor grader.

"It's a great event," said BC Construction President Ray Borges, who came from Hawaii to attend Demo Days. "There are a lot of machines to try out. Operating the equipment and seeing how it's assembled was worth the trip."

The updated demo site includes gravel walkways to increase safety between machine operation zones and permanent stairs. The various zones allow current and potential customers to test each machine to its fullest capabilities. ■



Bill Chimley,
Komatsu Director
of Training and
Publications



(L-R) Darrin Dance of Gale Lim Construction is with Matt Magler of Modern Machinery and Dave Fleming of Komatsu.



Dan Hollist (left) and Whit Merrill of DePatco attended Demo Days.

► VIDEO



Discover more at
ModernUpdate.com

The recently renovated Cartersville Customer Center features several safety updates, including new gravel walkways between working zones and permanent stairs.

A GOOD START

Tax law provides positives for construction businesses, but work still needed to fix Highway Trust Fund



Stephen E. Sandherr,
CEO, AGC

Congress passed comprehensive tax reform legislation that will lower rates, spur economic growth and impact construction businesses for years to come. However, this process did not start as well as it ended for the construction industry.

Initially, the tax reform bill provided little relief for many construction firms organized as pass-throughs, such as S-corporations, limited-liability corporations and partnerships; eliminated Private Activity Bonds essential for financing transportation infrastructure, low-income housing and other public construction and public-private partnership

Stephen E. Sandherr, Chief Executive Officer of Associated General Contractors of America, says the tax legislation passed late last year was a win for construction businesses, but it failed to address the long-term solvency of the Highway Trust Fund. The association continues to focus on rebuilding infrastructure and modernizing multi-employer pension plans.

projects; and repealed the Historic Tax Credit, critical to the private construction market for the rehabilitation and renovation of historic buildings.

Lobbying pays dividends

Associated General Contractors continued to fight for a better outcome for the construction industry through a rigorous lobbying campaign. Efforts included connecting construction company chief financial officers and certified public accountants with tax writers as well as generating thousands of pro-construction messages from members to key legislators. Our work helped convince members of Congress to ultimately reduce the corporate rate by 14 points; lower individual and pass-through rates; double the estate and gift-tax exclusion to \$11 million; ensure that the tax-exempt status of Private Activity Bonds remains untouched; and prevent full repeal of the Historic Tax Credit.

Future focus

That stated, there is still much work to be done in our nation's capital in 2018. Although Congress missed an opportunity to address the long-term solvency of the Highway Trust Fund via tax reform, we remain focused on ensuring that this administration keeps its promise to rebuild the nation's infrastructure. And, we are committed to efforts to modernize multi-employer pension plans for the future, among other priorities for the industry. ■

Editor's note: This article is from a statement by Stephen E. Sandherr, Chief Executive Officer of the Associated General Contractors of America (AGC), regarding final passage of federal tax reform known as H.R. 1, The Tax Cuts & Jobs Act. A chart with information pertaining to the law is available at AGC's website, www.agc.org.





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NEW OSHA RULES

Standards reduce silica dust exposure limit, add compliance requirements



**James R. Waite, Esq.,
Attorney at Law**

James R. Waite, Esq. is an equipment industry attorney. He authored the American Rental Association's book on rental contracts and represents equipment sellers and lessors throughout North America on a wide range of issues.

A new Occupational Safety and Health Administration (OSHA) rule regarding respirable crystalline silica dust in the construction industry requires covered employers to comply with stricter exposure limits and take steps to protect workers. OSHA reduced the exposure for construction activities to 20 percent of the previous permissible limit (from 250 micrograms per cubic meter of air to 50) averaged throughout an eight-hour shift. The previous standard had been in place since 1971. These new regulations for the construction industry went into effect last fall.

Crystalline silica is a common earth mineral that can be found in sand, stone and other materials. Respirable crystalline silica – very small particles, at least 100 times smaller than ordinary sand – is generated when cutting, sawing, grinding, drilling and crushing stone, rock, concrete, brick, block and mortar, among others, as well as in general excavation. The smaller the particles, the deeper they penetrate into the respiratory tract.

Respirable crystalline silica is generated when cutting, sawing, grinding, drilling and crushing stone, rock, concrete, brick, block and mortar, as well as in general excavation. About 2.3 million people in the United States are exposed to silica at work annually.

“Silica particles are thrown into the air, and at 10 micrograms they get into your mouth and the top of your throat,” said attorney and author James R. Waite, Esq., who helps companies comply with regulatory standards. “At three to five micrograms, it gets into the chest area and under 2.5, silica dust settles into the lungs and never leaves, which can lead to silicosis and other conditions.”

Silicosis is an incurable lung disease that can lead to death or disability. Lung cancer, chronic obstructive pulmonary disease and kidney disease can also result from respirable silica dust exposure. OSHA estimates the updated standard will prevent 600 deaths and more than 900 cases of silicosis annually.

Options, added steps

About 2.3 million people in the United States are exposed to silica at work each year. Employers have options to meet the standard such as using water to keep dust from getting into the air and proper vacuum dust-collection systems that include HEPA filtration. Utilizing approved respirators with an assigned protection factor of at least 10 under certain conditions, such as sawing more than four hours per day outside or anytime inside, is required.

Additional requirements of the new OSHA standard include:

- Assessing employee exposure to silica, if it is at or above an action level of 25 micrograms per cubic meter of air averaged throughout an eight-hour day and limiting access to high-exposure areas.
- Establishing and implementing a written exposure-control plan, which identifies tasks that involve exposure as well as methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur.





- Designating a competent person to implement the written control plan.
- Restricting housekeeping practices that expose workers to silica, such as the use of compressed air without a ventilation system to capture the dust and dry sweeping where effective, safe alternatives are available.
- Offering medical exams – including chest X-rays and lung-function tests – every three years for workers who are required by the standard to wear a respirator for 30 or more days in a given year.
- Training workers on the health effects of silica exposure, workplace tasks that can bring them into contact with silica, and implementing alternative means of limiting exposure.
- Keeping records of workers' silica exposure and medical exams.

OSHA training requirements for workers must include instructions on the health hazards of silica dust, a list of workplace tasks that can result in exposure, steps their employer has taken to protect employees and the purpose of the medical exams. Workers should be able to demonstrate knowledge of the topics during an OSHA investigation. Penalties include a fine of \$12,741 per violation, generally assessed per day for failure to abate and \$124,709 per violation for "willful" or "repeat" violations.

"No one can tell by just looking if they're at or above the monitoring level, so it's best

to monitor," said Waite. "If you are below 25 micrograms per cubic meter, great. If not, it's critical to meet the requirements to avoid violations and potential liability that could lead to legal claims."

Waite said there are additional steps that companies can take to protect themselves and workers such as putting stickers on equipment that warn of potential exposure and posting signs at all entry and exit points to and from regulated areas. When cleaning equipment, individuals should never use compressed air and the person(s) performing the task should wear protection such as a proper respirator.

No excuses

A separate standard was created for general and maritime industries. It, along with rules for hydraulic fracturing, went into effect this summer.

OSHA has programs that provide assistance to help small- and medium-size firms comply with the standards. It also has fact sheets available online at osha.gov.

"Contamination and the associated legal liabilities are nothing new," said Waite. "But, when governmental agencies like OSHA begin modifying long-accepted standards, business owners are wise to take action. Enhanced focus on regulations tends to yield similar enhancements in enforcement, making arguments such as, 'We've done it this way for 30 years,' largely irrelevant." ■

A new Occupational Safety and Health Administration rule regarding respirable crystalline silica dust reduced the previous exposure limit to 50 micrograms per cubic meter of air averaged throughout an eight-hour shift. Employers have options to meet the standard such as using water to keep dust from getting into the air, proper vacuum-dust collection systems and approved respirators.

TIGHT-TAIL-SWING PERFORMANCE

New excavator delivers outstanding lift capacity; KomVision bird's-eye-view camera available



Andrew Earing,
Product Manager,
Tracked Machines

V You can get dynamite performance in a small package. Komatsu's Tier 4 Final PC238USLC-11 proves it with a heavy counterweight mass and rounded cab that provide true tight-tail-swing performance and greater lift capacity than most conventional excavators of the same size. And, it boosts productivity up to 4 percent compared to the Dash-10 with a new viscous fan clutch that lowers engine parasitic loads.

"The PC238USLC-11 maintains the tight-tail-swing radius of its predecessor,

making it well suited for utility and highway applications and when working in confined spaces," said Andrew Earing, Product Manager, Tracked Machines. "The machine's contoured cab profile and sliding door allow the cab to swing within the same radius as the counterweight. The additional counterweight remains standard, giving the PC238USLC-11 equal or better lift capacity than conventional models in the same size class."

The PC238USLC-11 is available with Komatsu's new KomVision, a bird's-eye-view camera system that combines input from three cameras into a surround-view image of the machine and its environment that improves operators' situational awareness.

Komatsu's PC238USLC-11 excavator features a heavy counterweight mass and rounded cab that provide true tight-tail-swing performance and better lift capacity than most conventional excavators of the same size. A new viscous fan clutch lowers engine parasitic loads, increasing productivity up to 4 percent.



Discover more



Monitor panel improvements

Komatsu upgraded the high-resolution, LCD monitor panel, incorporating the standard rearview camera display with gauges. "Ecology Guidance" provides fuel-saving information to the operators, and they can still choose from six working modes to most effectively match the application, attachment and working conditions.

"In addition to the PC238USLC-11 measuring 40 percent shorter than the conventional PC210LC-11, this machine offers class-leading serviceability with quick access to the DEF pump and filter, PPC valves, batteries and aftertreatment components," said Earing. "Durability is second-to-none, with thick-plate steel used on the revolving frame, heavy-duty boom and arm structures, and easy-to-access cooling-system-debris screens. Overall, the PC238USLC-11 is a true purpose-built, short-tail excavator designed and crafted to outlast the competition." ■

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"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."



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028

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INTELLIGENT EXCAVATOR

New model offers added stability, excellent over-the-side lift capacity in efficient combo package

Have you ever wanted more? The PC390LCi-11 excavator from Komatsu provides more stability, achieving excellent balance among power, speed and fine control. This machine utilizes the upper structure and engine of the PC360LC models and the undercarriage of a 400-class machine. Now, Komatsu has taken that concept and made it intelligent with the introduction of its new Tier 4 Final PC390LCi-11.

"The *intelligent* Machine Control PC390LCi-11 delivers the exceptional production and speed of the PC360LCi-11, with full-factory, 3-D Global Navigation Satellite System machine control along with increased stability from its up-sized undercarriage," said Komatsu Product Specialist Renee Kafka. "This makes for the perfect combination in applications such as utility or wherever heavy lifting occurs."

The 257-horsepower PC390LCi-11 is the fourth installment in the *intelligent* Machine Control excavator lineup. It leverages the proven technology first introduced on the PC210LCi-10, including semi-automatic operation that goes beyond traditional indicate-only systems. Once target elevation is reached, the machine keeps the operator from digging deeper, eliminating overexcavation and the need for expensive fill.

intelligent Machine Control benefits

The Steer-to-Polyline feature helps operators actively dig to a center line, keeping a utility trench on track and minimizing waste. It's also easy for operators to create simple surfaces quickly for pipe runs by themselves.

"To increase comfort and convenience, the PC390LCi-11 comes standard with the machine-control-enhanced joysticks that were initially introduced on the PC210LCi-11," noted Kafka. "Whether it is production excavating, utility trenching or heavy-attachment work, this machine helps make operators' jobs easier, while reducing material costs by minimizing overexcavation." ■



Renee Kafka,
Komatsu Product
Specialist

Quick Specs on Komatsu's PC390LCi-11 Excavator

Model	Net Horsepower	Operating Weight	Bucket Capacity
PC390LCi-11	257 hp	87,867-90,441 lb	.89-2.91 cu yd

Komatsu's PC390LCi-11 delivers the exceptional production and speed of the PC360LCi-11, with full-factory, 3-D Global Navigation Satellite System machine control along with increased stability from its up-sized undercarriage, making it a great fit for trenching or heavy-application work.



Discover more

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**"THERE'S NOTHING THIS
HI-TECH OUT THERE!"**

ANTHONY CARLTON / OWNER / CARLTON, INC / ALPINE, UT

"Using and understanding the new product technology, available from Komatsu for our business, made me apprehensive at first. But our dealer and their technical support have worked with us to help us make the tech work for our needs. I am seeing the benefits now. I'm on board and love it!"



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029

GETTING TO GRADE FASTER

Earthwork, pipeline contractor eliminates overcutting with Komatsu PC490LCi-11 excavator

When Randy Ellis and his wife, Trisha, prepared to build a home on the family's ranch, he was shocked at the price to purchase 300 loads of dirt for the pad. Instead of paying for the material, Ellis bought a dump truck and a rubber-tire backhoe, dug a pond on his property and used the dirt for the house pad. While he didn't realize it at the time, this was the origin of what today is a successful earthwork and pipeline business, R&T Ellis, Inc.

Nearly a year ago, R&T Ellis purchased its first Komatsu excavator, an *intelligent* Machine Control PC490LCi-11.

"We already had used Topcon aftermarket GPS, so I liked that Komatsu integrated it into its *intelligent* Machine Control products," said Ellis. "It saves us time and money by eliminating the need to put up and take down the masts, and we no longer worry about them getting damaged or stolen."

R&T Ellis recently put the PC490LCi to work on a project that involved digging a canal from a river to a treatment plant in preparation for bringing a new supply of drinking water to a major U.S. city. The company's role included clearing 350 acres, building a six-and-a-half mile gravel access road to the canal, installing piping and moving more than 650,000 yards of earth.

"It's like a knife through butter," shared R&T Ellis Operator Sergio Bellestros about his experience in digging with the excavator on the canal project. "With the built-in GPS, I can get to grade without worrying about overcutting or having to leave it at a certain elevation for a dozer to finish."

Plug in plans and go

The excavator utilizes 3-D design data loaded into the machine's monitor to accurately display machine position relative to target grade. When the bucket reaches the target surface, automation kicks in to limit overexcavation.

"What stands out (about the PC490LCi) is the increased production and efficiency. We simply plug the plans into the machine and go to work. With minimal staking, we can put everything to grade faster and without the concerns about overcutting or needing someone to constantly check grade," noted Ellis. ■



Randy Ellis,
President



Discover more at
ModernUpdate.com

R&T Ellis Operator Sergio Bellestros loads trucks with a Komatsu *intelligent* Machine Control PC490LCi-11. "It's like a knife through butter," described Bellestros of digging with the excavator. "With the built-in GPS, I can get to grade without worrying about overcutting or having to leave it at a certain elevation for a dozer to finish."

► VIDEO



THE RIGHT FIT

New wheel loader for specialized needs offers improved production and fuel efficiency



Craig McGinnis,
Komatsu Product
Marketing Manager



Discover more

To do a job right, an operator needs the correct equipment. For a certain set of customers, that machine is the Komatsu WA480-8 wheel loader.

“The WA480 fills a need for a select group of users,” said Komatsu Product Marketing Manager Craig McGinnis. “For them, the WA470 isn’t big enough, but the WA500 is too much. The WA500 is approximately 20 percent larger than the WA470 when it comes to horsepower, tipping and other metrics, while the WA480 is closer to 8 percent bigger, providing a much better fit.”

The 56,262-pound WA480-8 wheel loader replaces its Dash-6, Tier 3 predecessor and sports a 299-horsepower Tier 4 Final engine that delivers as much as 20 percent greater fuel efficiency. Komatsu’s dual-mode Engine Power Select System lets operators choose between two standard options: E-Mode for greater fuel efficiency during general loading or P-Mode when they require maximum

power output for hard digging operations or uphill climbing. The E-Mode Light option, which is selectable from the monitor, further reduces fuel consumption.

The WA480-8 is equipped with a steering wheel, but customers can opt to replace it with Komatsu’s Advanced Joystick Steering System (AJSS), which allows operators to handle steering and directional travel through wrist and finger control.

Buckets of efficiency

Komatsu further enhanced the productivity of the WA480-8 by adding an auto-dig function that enables the machine to automatically lift the boom and curl the bucket when in a pile – a feature that was previously offered only on the larger WA500 and WA600 models. The WA480-8 also includes a redesigned bucket that is available in 6.0- or 6.5-cubic yard capacities.

“We reconfigured the curves in both the front and back of the bucket to increase productivity by as much as 7 percent compared to the previous model,” detailed McGinnis. “The design enables material to flow into the bucket easily and also helps with load retention to prevent material from spilling over the sides.”

In-cab experience

In addition to enhanced engine performance and overall design, the WA480-8 delivers upgrades that improve the operator experience. The cab boasts a low-noise design, an Electronic Pilot Control air-suspension seat, an auxiliary jack, a pair of 12-volt outlets and two 7-inch, high-resolution, color monitors. One displays machine diagnostics and menus while the other is for the rearview camera. ■

The new Komatsu WA480-8 has a 299-horsepower, Tier 4 Final engine that boosts fuel efficiency up to 20 percent and a redesigned bucket that increases productivity by as much as 7 percent.



NEW HORIZONS

New Director of Training and Publications Bill Chimley aims for world-class results

QUESTION: How does Komatsu America's Training and Publications team lead the world?

ANSWER: Due to the timing of the engine emission requirement in North America, we needed to develop new-model training and publication materials first. This means our training and publications development teams have blazed the trail since 2011. Because we have experience being content-development leaders, we also need to take the lead in using digital-learning platforms and the latest technologies available. We want Komatsu America Training and Publications to be a center of excellence.

QUESTION: What is your vision for the Training and Publications area?

ANSWER: Our vision is to continue a strong foundation of material development while using the latest technology to increase the effectiveness of our material delivery. Through technological advances, the speed and ease of learning is expanding exponentially, allowing Komatsu customers, distributors and employees to easily access our offerings.

QUESTION: How do you plan to maximize the effectiveness of the Cartersville Customer Center?

ANSWER: To anyone who has yet to visit the Cartersville Customer Center, we extend an open invitation. During the past 12 months, we have hosted the highest number of visitors since the facility opened in 2001. Our amenities include a 35-acre demo site; a beautiful 40,000-square-foot main building with multiple classrooms, offices and state-of-the-art auditorium; as well as a 20,000-square-foot shop – all situated on 600 acres just north of Atlanta. Visitors are absolutely blown away by this facility. Our primary goal is to share resources with our distributors and affiliate

Continued . . .



**Bill Chimley, Director of
Training and Publications**

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.

Bill Chimley took over as the Director of Training and Publications at the Komatsu Cartersville Customer Center in Cartersville, Ga., in October 2017. Prior to that, he served for five years as the General Manager of the Supply Chain Division at the Chattanooga Manufacturing Operation facility. "I am very excited to be here in this new position," said Chimley. "We host some incredible events for both our customers and employees. From Demo Days to daily training classes, we have a lot of traffic through this facility."

Chimley has 13 years of experience with Komatsu. He worked as a District Sales Manager covering multiple South Region distributors before moving to the Supply Chain Division in 2010 when he was named Manager of Customer Support and Logistics. In 2012, Chimley was promoted to the General Manager position, where he was responsible for the planning, ordering and logistics of mining, construction, utility and forestry machines in North America.

At each stop, Chimley has focused on improvement strategies. "Komatsu America practices a philosophy called 'Kaizen,' which means continual improvement," explained Chimley. "In every position, I've tried to raise the bar, whether that means implementing inventory forecasting process improvements or designing how we use technology to deliver training and publications materials, Komatsu is very supportive."

Away from the office, Chimley enjoys spending time with his wife and two teenage daughters. They love to travel and listen to music together. Chimley's ideal get away would be trout fishing in a cold mountain stream on a sunny spring day.

Offering a safe, effective environment for learning

... continued

business partners by providing world-class training, demonstration and meeting facilities.

QUESTION: Are other types of events held at the center?

ANSWER: While the two most visible customer events are Demo Days each spring and fall,

we also host approximately six major annual training events covering all aspects of our business. Filling in the day-to-day of our calendar are numerous technical, operator and sales class offerings. The center is a versatile facility with an incredible support staff that creates a safe and effective learning environment.

QUESTION: How do you see the Cartersville Customer Center evolving in the next few years?

ANSWER: We are in the process of upgrading our wireless network to enable full connectivity of people, machines and classrooms – even beyond our campus. A growth area in 2018 is live-streaming class videos, which will allow technicians, for example, to stay in the field and participate in training without losing precious days due to travel.

Last spring, we completely redesigned the theatre, which also doubles as our largest classroom. This winter, we made upgrades to the demo site, making it both safer and more functional, especially to support SMARTCONSTRUCTION technologies. Future visions for the Cartersville Customer Center include developing a quarry demonstration area to offer a more realistic operation experience, creating an executive briefing area where we can learn from our customers and share Komatsu's total business solutions, and making this facility a center of excellence for all of our publications. ■

Director of Training and Publications Bill Chimley (far right) listens as a group of Komatsu sales representatives participate in a training session inside the Cartersville Customer Center's newly renovated theatre.



Spring and fall Demo Days are the two most visible events at the Cartersville Customer Center, according to Director of Training and Publications Bill Chimley.



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NEW REMAN FACILITY

Komatsu helps customers save money, boosts availability of high-quality remanufactured products

If you need to replace components, or even an engine, you want the most-cost effective solution possible. Oftentimes, that may involve using the high-quality remanufactured products available through Komatsu's reman facilities.

Recently opened, and located at the Chattanooga Manufacturing Operation, the reman facility grew out of a fact-finding effort in Komatsu's Reman/Overhaul Group led by Senior Product Manager Goran Zeravica and Product Manager Michael Carranza. One of their first steps involved talking with customers and Komatsu distributors to gauge their expectations.

"They provided valuable feedback to act upon, including the need for expanding our availability and offering of reman products," shared Zeravica. "That's one of the reasons we opened a new reman facility; the other reason was to expand engine-testing ability for our customers. The new facility supplies like-new engines that meet Komatsu's stringent standards, so customers can rest assured they are getting quality, reliable products with long lives."

Substantial inventory

Komatsu has already amassed an extensive inventory. Reman products are available from various sources such as the Ripley Parts Operation, Peoria Parts Department and regional parts depots.

"Availability and fast access are vital to minimizing downtime," said Carranza. "A good inventory ensures that when an order is placed, a replacement item is shipped right away. Once the repair is complete, the customer can send in their used component, and we will give them a credit for it."

Quality confidence

Komatsu demonstrates its confidence in reman products by providing two warranties*:

Komatsu Genuine Reman Warranty

Coverage (Standard):

- Applies to Genuine Reman components
- One year
- Unlimited hours

Komatsu Genuine Reman Component Quality Assurance:

- Applies to engines, transmissions, torque flows, final drives, differentials, axle assemblies, travel motors and main hydraulic pumps
- Four years
- Prorated, up to 10,000 hours ■

** Additional qualifications are required. Talk to your Komatsu distributor for more information.*



Michael Carranza,
Product Manager



Goran Zeravica,
Senior Product Manager



Komatsu's new reman facility brings original equipment manufacturer expertise to the table, while boosting availability through reman and retesting capabilities.



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"Komatsu has been a great partner for us. They've been with us through the years, even when we started small and not many other places wanted to talk to us. They believed in us and helped us grow. From a custom financing plan to tech like KOMTRAX, to customer service and Komatsu CARE, and of course reliable products—they offer everything to help our bottom line grow." **Rachelle Reigard, President**

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BUSINESS SOLUTIONS GROUP

Team assesses Madden Materials' operations; improvements save enough to buy additional equipment

Approximately two years ago, Joe and Sofia Regalado acquired Madden Materials, adding to the couple's already hefty work load as they operated a trucking company and another material supply business. The new venture came with challenges, so they turned to their local Komatsu distributor, who connected them with the Business Solutions Group to help formulate an action plan.

The Business Solutions Group offers bottom-line tactics that maximize production and efficiency. The group studies customers' existing operations, considers alternatives and provides recommendations. The service is complimentary.

In Madden Materials' case, the Business Solutions Group partnered with the distributor to conduct an Optimized Fleet Recommendation (OFR) study on how to move sand from the pit to a new wash plant most effectively. Members of the Business Solutions Group took into account the productive potential of various sizes of excavators, wheel loaders and trucks to identify the most efficient fleet, depending on production needs and other factors.

"They assessed the site – how we load, haul distance, tons of product the plant needed per hour – and determined that smaller units would be best," said Owner/Chief Executive Officer Joe Regalado. "They projected operating costs by considering fuel, operator pay, maintenance and more."

Before the study, Regalado was convinced he needed to add a large truck, possibly a 60-ton rigid frame, and pair it with an existing 50-ton-plus excavator. The Business Solutions Group showed him other options, including using a Komatsu 30-ton articulated dump truck and a PC360LC excavator.

Money-saving strategies

"The same production with smaller equipment means less fuel and maintenance as well as lower overall costs," said Regalado. "The study saved us enough money that we could buy a second WA380 loader. The assessment was done at no charge. That's an incredible benefit, and they have finished a second OFR study to determine our present and future needs as we continue to expand and move farther away from the plant." ■



Joe Regalado,
Owner/Chief
Executive Officer,
Madden Materials



Discover more at
ModernUpdate.com

Komatsu's Business Solutions Group recommended a smaller articulated haul truck, an HM300, as part of its assessment of Madden Materials' operations. "The same production with smaller equipment means less fuel and maintenance as well as lower overall costs," said Joe Regalado, Owner/Chief Executive Officer.

▶ VIDEO



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DRIVERLESS TRUCKS

Komatsu celebrates 10th anniversary of autonomous haulage system

This year marks 10 years since the commercial deployment of Komatsu's autonomous haulage system (AHS), and based on its proven track record of safety and productivity, the company plans to ramp up the pace of distribution. Komatsu was the first manufacturer in the world to commercialize AHS – driverless trucks – in the mining industry.

More than 100 AHS trucks presently operate in North America, South America and Australia. Running around the clock, they haul three different commodities in six mines. By the end of 2017, Komatsu AHS trucks had recorded a world-leading cumulative total of 1.5 billion tons moved.

According to Komatsu, each truck is equipped with vehicle controllers, a high-precision GPS system, an obstacle-detection system and a wireless network system. These features allow the trucks to operate safely through a complex load, haul and dump cycle, as well as integrate with dozers, loaders and shovels.

Komatsu began AHS trials in 2005 at a copper mine in Chile and successfully achieved the world's first commercial deployment three years later. A second followed in late 2008 at Rio Tinto's iron ore mine in Australia. The company currently operates AHS trucks in four mines in the Pilbara region of Australia. Rio Tinto controls the system remotely and efficiently from its operations center in Perth, almost 1,000 miles away.

Using AHS, one customer reported improved productivity, reducing load and haul-unit costs by more than 15 percent compared to conventional haulage methods. In addition, optimized automatic controls reduce sudden

acceleration and abrupt steering, resulting in 40 percent longer tire life for that same customer. AHS is significantly safer in conventional mining environments, where even a minor driving error could cause a serious accident, according to Komatsu.

New initiatives

To extend the benefits to operations with manned haul fleets, Komatsu conducted and successfully completed trials of its AHS retrofit kit at a Rio Tinto mine in September 2017. It was mounted on an electric-drive standard 830E (220-ton payload) and enabled the truck to operate in autonomous mode. Komatsu plans to expand the AHS retrofit kit to additional models of electric-drive standard trucks. It will also enhance AHS's mixed-fleet operations functions to enable manned haulers of any make to safely interoperate with Komatsu's AHS trucks in a blended fleet. ■

To date, Komatsu's autonomous haulage system (AHS) has recorded a world-leading cumulative total of 1.5 billion tons moved. Using AHS, one customer reduced load and haul unit costs by more than 15 percent compared to conventional haulage methods.



CONSTRUCTION WAGES RISING

AGC analysis indicates firms paying more, but labor market remains tight



Stephen E. Sandherr,
AGC CEO

An Associated General Contractors of America (AGC) analysis showed construction wages on the rise, which appears to be attracting workers to return to the industry. The organization cautioned, however, that labor conditions still remain extremely tight.

"Many firms are boosting pay and taking other steps to compete for a relatively small pool of available, qualified workers to hire," said Stephen E. Sandherr, AGC's Chief Executive Officer. "While these measures appear to be luring construction workers back to the job market, firms report they would hire additional workers if they could find enough qualified candidates."

Highest levels in past decade

The most recent data, in April, showed construction employment totaled 7,174,000, a gain of 17,000 for the month and 257,000, or 3.7 percent, throughout the last 12 months. Construction employment is at the highest level since June 2008. Association officials note that the year-over-year growth rate in industry jobs was more than triple

the 1.1 percent rise in the total nonfarm payroll employment.

Hourly wages in the industry averaged \$29.63 in April, an increase of 3.5 percent from a year earlier. That put the average hourly earnings in construction 10.4 percent higher than the average for all nonfarm private-sector jobs, which rose 2.6 percent in the past year to \$26.84, Sandherr added.

Construction officials urged federal, state and local leaders to take steps to make it easier for schools, construction firms and local associations to develop and offer construction-focused programs to recruit and prepare future workers. They noted that such measures would signal greater numbers of students that there are multiple paths to success in life.

"It is time to start showing young adults that high-paying careers in construction should be on the list of professions to consider," Sandherr said. "Too many students amass a mountain of college debt just to earn mediocre wages working in a fluorescent-lit cube farm." ■

A recent analysis by Associated General Contractors of America showed hourly earnings in the construction industry averaged \$29.63, an increase of 3.5 percent from a year earlier. That's attracting some workers back to the industry, but the market remains tight.



Komatsu acquires Quadco, Southstar forestry heads

Komatsu acquired Quadco felling heads and Southstar large harvesting heads, adding them to its already stellar lineup of Log Max and Komatsu small and medium-size harvester heads. The acquisition allows Komatsu to offer customers a full range of forestry attachments.

Quadco and Southstar will continue to operate as independent companies within the Komatsu group and will maintain their existing sales networks. To improve value to customers, Komatsu is forming a forestry attachment division within Komatsu Forest AB, which will manage the Quadco, Southstar and Log Max brands. ■

EIA: Wind to blow past hydro in renewable energy production

The U.S. Energy Information Administration (EIA) expects wind to surpass hydroelectric in domestic, renewable-energy production this year. EIA predicts hydropower will fall to 6.5 percent from 7.4 percent of the nation's overall energy output in 2018. Wind generated 6.3 percent last year, and EIA anticipates it will rise to 6.9 percent by 2019. Weather will play a big role in what the final numbers look like at the end of 2018.

"Because few new hydro plants are expected to come online in the next two years, hydroelectric generation in 2018 and 2019 will largely depend on precipitation and water runoff," EIA said in its analysis. "Although changes in weather patterns also affect wind generation, the forecast for wind-power output is more dependent on the capacity and timing of new wind turbines coming online." ■

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Manufacturer/Model	Description	Serial No.	Year	Hours	Price
CRAWLER DOZERS					
KOMATSU D155AX-8	SIGMA BLADE, MS RIPPER	100137	2017	1,151	POR
KOMATSU D155AX-8	SIGMA BLADE, MS RIPPER	100143	2017	1,632	POR
KOMATSU D65WX-17	PAT BLADE, MS RIPPER	1943	2014	3,045	\$195,000
KOMATSU D65PX-18	S-BLADE	90216	2016	3,751	POR
KOMATSU D65PX-18	PAT BLADE, MS RIPPER	90014	2016	1,483	POR
KOMATSU D65PX-17	PAT BLADE	1001	2014	3,377	POR
KOMATSU D61PXi-24	PAT BLADE	B60317	2017	2,103	POR
KOMATSU D51EX-22	PAT BLADE, MS RIPPER	B13348	2014	1,316	POR
KOMATSU D39PX-24	PAT BLADE	95004	2016	1,370	POR
DEERE 700K LGP	PAT BLADE, TOPCON GPS SYSTEM	217447	2012	2,467	\$135,000

WHEEL LOADERS					
KOMATSU WA500-8	8-YD BUCKET, AJSS	90065	2017	1,877	POR
KOMATSU WA500-8	8-YD BUCKET, AJSS	90073	2017	3,048	POR
KOMATSU WA470-8	5.5-YD, BUCKET	A49025	2017	2,119	POR
KOMATSU WA380-8	QC	A74496	2017	705	POR
KOMATSU WA380-8	QC	A74127	2016	1,272	POR
KOMATSU WA320-7	QC, 3 VALVE	80793	2016	1,458	POR
KOMATSU WA270-8	QC	83271	2017	1,504	POR
KOMATSU WA270-7	QC, BUCKET, FORKS	80748	2015	1,631	POR

HYDRAULIC EXCAVATORS					
KOMATSU PC650LC-8EO	14' ARM	65106	2012	9,189	\$275,000
KOMATSU PC490LC-11	11' ARM, QC, THUMB, 3RD MEMBER HYDRAULICS	85036	2016	1,837	POR
KOMATSU PC490LC-11	11' ARM, QC	85003	2016	1,651	POR
KOMATSU PC390LC-11	13' ARM, QC	A30508	2017	487	POR
KOMATSU PC360LCi-11	13' ARM, UHF, QC	A38051	2018	360	POR
KOMATSU PC360LC-11	13' ARM, QC	A35255	2015	1,901	POR
KOMATSU PC290LC-11	11'6" ARM, QC, THUMB	A27307	2015	1,910	POR
KOMATSU PC240LC-11	10' ARM, QC	95003	2015	2,020	POR
KOMATSU PC228USLC-10	9'6" ARM, QC, AUX HYDRAULICS	2533	2016	1,471	POR
KOMATSU PC228USLC-10	9'6" ARM, QC, AUX HYDRAULICS	2434	2016	1,552	POR
KOMATSU PC210LC-11	9'7" ARM, QC, THUMB	A12451	2017	601	POR
KOMATSU PC170LC-11	8'7" ARM, QC	35204	2017	281	POR
KOMATSU PC138USLC-11	8' ARM, QC, THUMB, BLADE	51341	2018	977	POR
KOMATSU PC88MR-10	QC, THUMB, 18", 24", 48" BUCKETS, ROADLINERS	7746	2016	940	POR
KOMATSU PC88MR-8	QC, THUMB, 30" BUCKET, STEEL TRACKS	5941	2012	3,039	POR
KOMATSU PC45MR-5	OROPS, QC, THUMB, 18", 24", 42" BUCKETS, RBR TRACKS	31083	2017	369	POR

FORESTRY EQUIPMENT					
KOMATSU PC390LL-10	LOG LOADER, TC60 GRAPPLE	A50602	2013	6,718	POR
KOMATSU PC240LL-10	11' ARM, 7" RISER	A20633	2017	15	POR
TIMBCO 445EXL	BUNCHER	FT4C2887032907	2007	14,000	POR
TIMBER PRO TL735B	BUNCHER, 22B, 360VI	TL735B0129020612	2012	8,223	POR
SENNEBOGEN 830M-HDS	LOG LOADER, TC60 GRAPPLE	83001714	2014	455	POR
VALMET 890.3	FORWARDER W/ BRUKS CHIPPER	310249	2007	5,824	\$565,000

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Manufacturer/Model	Description	Serial No.	Year	Hours	Price
MOTOR GRADERS					

KOMATSU GD655-5	14' BLADE, RIPPER	55420	2013	1,946	POR
KOMATSU GD655-6	14' BLADE, RIPPER, 3DMC2 TOPCON	60250	2018	418	POR

Manufacturer/Model	Description	Serial No.	Year	Hours	Price
OFF-ROAD TRUCKS					

KOMATSU HM400-5	ARTICULATED TRUCK, TAILGATE	10245	2016	3,175	POR
KOMATSU HM400-5	ARTICULATED TRUCK, TAILGATE	10249	2016	3,276	POR
KOMATSU HM400-3	ARTICULATED TRUCK, TAILGATE	3755	2014	3,889	POR
KOMATSU HM300-5	ARTICULATED TRUCK, TAILGATE	10213	2016	2,382	POR
KOMATSU HM300-5	ARTICULATED TRUCK, TAILGATE	10418	2017	1,079	POR
KOMATSU HM300-5	ARTICULATED TRUCK, TAILGATE	10365	2017	1,788	POR
KOMATSU HM300-5	ARTICULATED TRUCK, TAILGATE	10364	2017	2,149	POR
MOROOKA MST2200VDR	CRAWLER CARRIER	AR224112	2016	1,045	POR
MOROOKA MST1500VDR	CRAWLER CARRIER	AR1506004	2017	285	POR

Manufacturer/Model	Description	Serial No.	Year	Hours	Price
AGGREGATE EQUIPMENT					

CEDARAPIDS 1313	RC54STD PLANT W/ 6X16 2DK SCREEN	PC311995	.		\$195,000
JCI K300/6203	KODIAK CLOSED-CIRCUIT PLANT	P171908	2017	475	POR
PIONEER 2650	JAW PLANT W/ 6X16HS SCREEN	PC265040317	2017		POR
PIONEER FT2650	TRACK MOUNTED JAW CRUSHER	416532	2017	1,014	POR
PIONEER GT125	TRACK MOUNTED JAW CRUSHER	416324	2017	2,337	POR
JCI FT200CC	TRACK MOUNTED CONE CRUSHER	T170319	2017	624	POR
JCI FT4250CC	CRAWLER MOUNTED IMPACT CRUSHER	417412	2018	166	POR
KPI-JCI 6203-32	6X20 3 DK SCREEN PLANT	S16SPT0190	2016		POR
KPI-JCI 7203-38	7X20 3 DK SCREEN PLANT	S15SPT0110	2014		POR
FAB TEC PRO 1	PRO SCREEN	P262A17	2017	13	POR
FAB TEC 6203-32	WASH PLANT W/ 36" SAND SCREW	6203W37417	2017		POR
JCI GT165	CRAWLER MOUNTED SCREEN PLANT	164278	2017	488	POR
KPI 36"X100'	SELF-CONTAINED RADIAL STACKER	416296	2017	805	POR
KPI 36"X136'	SUPER STACKING CONVEYOR, 4WD	416525/416526	2017	34	POR
FAB TEC 42PBF	42" BELT FEEDER	BF424230713	2013	1,176	POR
TELESTACK TU515	TRUCK UNLOADER	2500330813	2013	465	POR
MASABA SDU	SIDE DUMP TRUCK UNLOADER	2011461	2011	1	\$150,000
EAGLE IRON WORKS 36"X18'	EAGLE SINGLE COARSE MATERIAL WASHER	12557			POR

Manufacturer/Model	Description	Serial No.	Year	Hours	Price
COMPACTION					

HAMM 3410	84" SMOOTH SINGLE DRUM	H1792538	2016	116	\$99,000
HAMM H16i	84" SMOOTH SINGLE DRUM	H2110757	2016	492	POR
HAMM H11i	84" SMOOTH SINGLE DRUM	H2110608	2016	416	POR
HAMM H5i	54" SMOOTH SINGLE DRUM	H2220011	2014	126	\$65,000
HAMM HD+ 140i VVHF	84" ASPHALT ROLLER	H2070055	2014	2,365	POR
HAMM HD+ 140 VVHF	78" ASPHALT ROLLER, OZZIE	H1841088	2014	1,755	POR
HAMM HD+ 120i VO	78" ASPHALT ROLLER, OZZIE	H2070026	2014	2,118	POR
HAMM HD 12 VV	47" ASPHALT ROLLER	H2300369	2015	943	POR
HAMM HD+ 70i VT	66" COMBO ASPHALT ROLLER	H1860083	2015	1,210	POR
HAMM HD 12VV	47" ASPHALT ROLLER	H2300369	2015	943	POR
DYNAPAC CC7200	84" ASPHALT ROLLER	16359	2016	348	\$197,500

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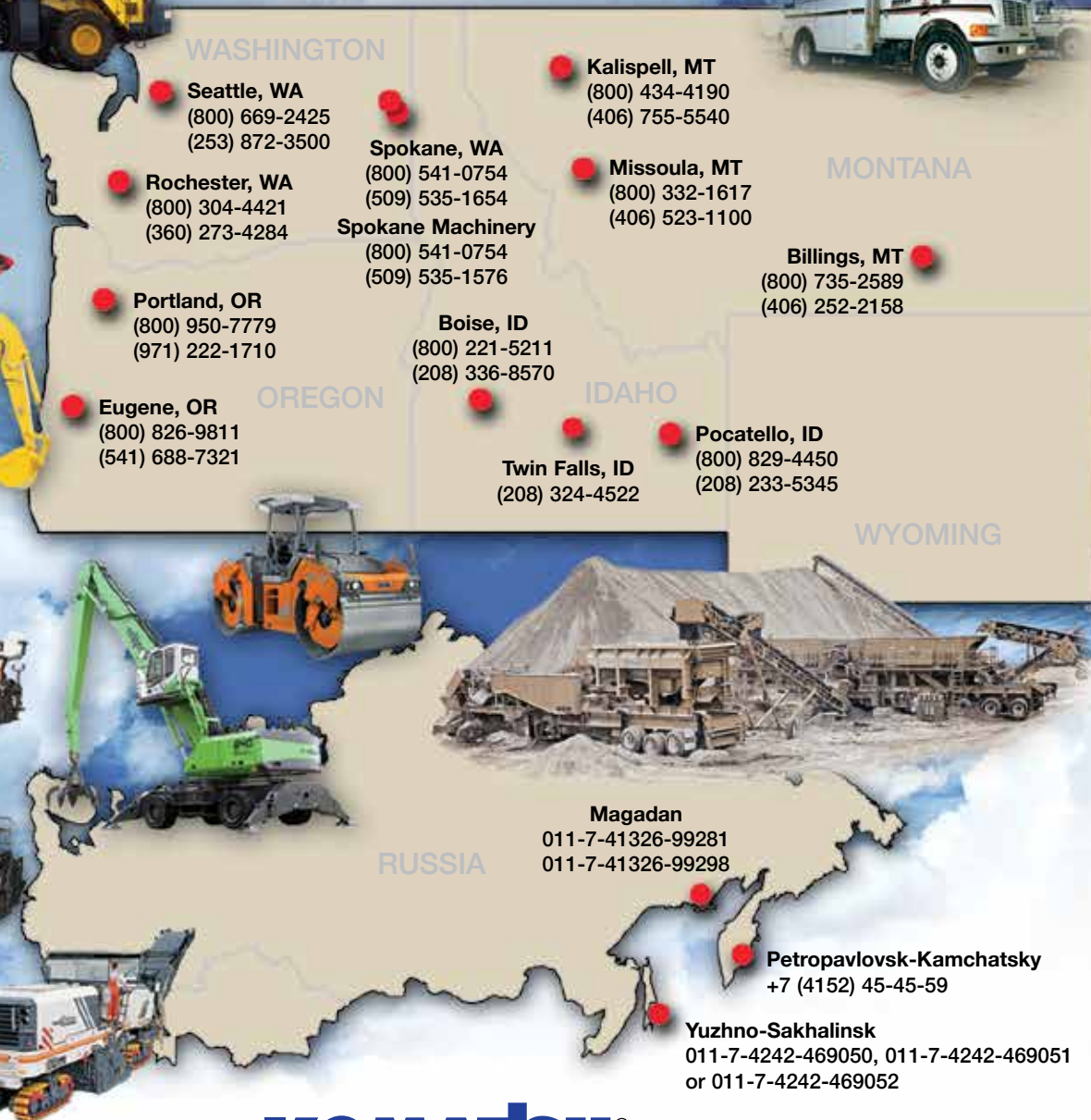
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