RMS
ROAD MACHINERY & SUPPLIES CO.

2013 No. 3, September

ROAD SIGNS

A PUBLICATION FOR AND ABOUT ROAD MACHINERY & SUPPLIES COMPANY CUSTOMERS

A MESSAGE FROM THE PRESIDENT

Mike Sill II

Taking innovation a step further

RMS ROAD MACHINERY & SUPPLIES CO.

Dear Valued Customer:

This year marks the beginning of Tier 4 Final implementation with the introduction of smaller engine-horsepower machines, such as utility equipment. Larger equipment begins rolling out next year. It's taken a long time and a great deal of innovative engineering to get to this point, but the efforts have been well worth it, especially when it comes to Komatsu equipment.

Not only has Komatsu met the stringent emissions standards of each new tier level, it has engineered machinery that's more productive and efficient. It's added innovative technology such as KOMTRAX, which helps lower owning and operating costs by allowing you to monitor machinery and proactively schedule service or address productivity issues, including excessive idle time. Komatsu furthered its efforts to lower your costs by introducing Komatsu CARE, which provides complimentary scheduled service on Tier 4 Interim machines.

Now, the manufacturer has taken innovation a step further with the introduction of "intelligent" machines, the first of which you can read about in this issue of your *Road Signs* magazine. We're excited about the new D61i dozers that offer integrated 3D grade control without the blade-attached mast and cables you see in traditional machine-control grading systems. Tests show this revolutionary design can further reduce operating costs and increase even the most rookie operator's productivity. Details are in the article.

If you're interested in a D61i or any other machine, there is an advantage to purchasing this year. Enactment of the American Taxpayer Relief Act of 2012 extended the 50-percent bonus depreciation for most property placed in service before 2014. It also extended increased Sec. 179 expense levels of $500,000 with a phase-out amount beginning at $2 million. After this tax year, those numbers are scheduled to significantly drop. For additional information, talk with your sales representative, or call your nearest Road Machinery & Supplies branch.

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

Sincerely,
ROAD MACHINERY & SUPPLIES CO.

Mike Sill II

Mike Sill II
President and CEO

IN THIS ISSUE

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ADVENTURE TOUR 2013

RMS' annual motorcycle ride revs into its second decade

(L-R) Toby Shine of Shine Brothers and his wife, Sylvia, hosted a reception at their Okoboji Classic Cars business at the conclusion of the ride. Sandy and Larry Smith played host to bikers at the "Fire Up" party the night before the ride and led the Adventure Tour.

Craig Raske of Knife River and his daughter, Melissa Nix, arrive in Atlantic the evening before the ride.

Road Machinery & Supplies' RMS Adventure Tour marked the beginning of its second decade with a nearly 250-mile trek through southwest and northwest Iowa. The annual motorcycle ride – which celebrated its 10th anniversary last year – began in Atlantic and ended in the Lake Okoboji area.

A "Fire-Up" party the night before the ride kicked off the festivities, giving participants a chance to catch up with each other and enjoy some camaraderie. The next morning, following instructions, riders climbed aboard their bikes to begin a journey that consisted of turns, hills and wide-open spaces on some of Iowa's secondary roads and scenic byways.

The longtime organizer and recently retired Larry Smith and his wife, Sandy, hosted the preparty and led the group of more than 60 bikes along a route that hit towns such as Walnut, Minden, Portsmouth, Soldier, Quimby and Sutherland, among others. Rest stops along the way included Willow Lake Recreation Area near Woodbine and Koser Spring Lake Park at Cherokee, where participants enjoyed a catered lunch. A gas stop in Mapleton was also part of the trip.

Continued . . .

(L-R) Mindy Anderson, Rob Anderson (NCIRSWA), Amy Fratzke and Darin Fratzke (Shine Brothers) enjoy the "Fire Up" party the night before the ride.

RMS' Chuck Gallagher gives last-minute instructions before the Adventure Tour revs up.

Pete Lonergan of Story Construction and his wife, Nancy, are ready to ride.

Reg Sachs (Martin Marietta) and his wife, Kathy, enjoyed the ride.

Harold Busta of Croell Ready Mix and his wife, Lisa, prepare to enjoy the ride.

The Adventure Tour took riders through western Iowa, along flat stretches of road as well as hills.

Bob Rosencrantz (left) and Jay Rabinovitz of Alter Trading, and Jay's wife, Judy, catch up at the party the night before the ride.

(L-R) Fred Lukins of Lukins Construction, RMS' Chuck Gallagher and Kevin Heck of Soil Solutions pause for a photo before the "Fire Up" party.

Several turns were part of the nearly 250-mile trek.

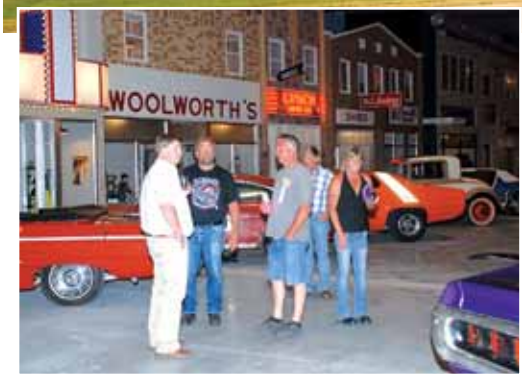
Scan this QR code using an app on your smart phone to watch video of the RMS Adventure Tour.

www.RMSRoadSigns.com

Customers, RMS staff enjoy another memorable ride

. . . continued

Road Machinery & Supplies President and CEO Mike Sill II addresses the group at the post-ride reception.



The post-ride reception was held at Okoboji Classic Cars, where participants got a look at restored and modified cars from several eras.

Harry Baxter (seated), Jairo Garza (standing, left) and Randy Johnson of Shine Brothers pose for a photo at the "Fire Up" party.

This year's ride started in Atlantic and ended at Lake Okoboji with more than 40 bikes on the route.

Following lunch, bikers rode the final leg of the Adventure Tour that ended at Lake Okoboji. Later in the evening, they attended a reception at Okoboji Classic Cars, owned by Shine Brothers' Toby Shine and his wife, Sylvia. Those in attendance saw several restored and modified autos and motorcycles in settings that harkened back to the Okoboji area in the early and mid-20th century.

"Each ride is memorable because not only do we get to see some fantastic landscapes, but we enjoy great company along the way," said RMS COO Dave Johnson. "We appreciate that our customers take time away from their busy schedules to make the trip. We especially thank the Shines for opening up Okoboji Classic Cars for the dinner, and another special thanks goes to Larry for taking time from retirement to put together the route."

In addition to Road Machinery & Supplies, sponsors for the Adventure Tour included Komatsu, Felling Trailers, KPI-JCI/Astec, SENNEBOGEN and SANY cranes. ■

Craig and Lisa Breitbach of Cedar Valley Steel arrive in Atlantic where the ride started.

RMS COO Dave Johnson helped pump gas at a stop along the route that was sponsored by RMS and manufacturers.

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CLEAN DIESEL DELIVERS

New technology helps dramatically reduce emissions during the past decade

For the last decade, diesel technology has undergone a fundamental transformation to near-zero emissions, based on ultra-low-sulfur diesel fuel, advanced clean-burning engines and new emissions-control technology. These advancements have occurred across the board — from the smallest industrial engine to the increasingly popular clean-diesel cars, commercial trucks, off-road machines and equipment, maritime vessels and locomotives.

The results of these efforts are clear because, according to the EPA, diesel engines account for only a small portion of the national particulate matter (PM) emissions inventory — less than 6 percent.

These last 10 years were truly the decade of clean diesel and the results are visible today. New highway diesel truck engines have near-zero emissions of particulate matter and oxides of nitrogen (NOx) — a remarkable 98 percent less than 1988 models. It is also noteworthy that truck and engine manufacturers are not only producing near-zero level emissions, but these vehicles are also consuming on average 5-percent less fuel.

Just how significant is this accomplishment? Consider that it now takes 60 of today's clean-diesel, heavy-duty trucks to equal the particulate emissions of one 1988 truck — a 60-1 ratio.

Similar reductions in emissions of particulates and NOx are well underway and will be completed by 2014 for the wide range of off-road engines found in everything from small construction equipment and farm machinery to freight locomotives, marine vessels, work boats and very large off-road machines and mining equipment.

The new generation of clean-diesel technology is not only meeting its emissions-reduction targets but is also exceeding them. Further contributions will come as more new-technology engines and equipment are put into service in the years ahead.

Just as the EPA's March 2012 Black Carbon Report to Congress stated that new diesel technology will play a role in helping reducing black-carbon emissions by 2030, new diesel technology will play a major role in helping meet the Clean Air Act standards for soot. ■

Allen Schaeffer, Executive Director of the Diesel Technology Forum

New engine technology in equipment, such as Tier 4 Interim machinery, helped reduce emissions of particulate matter to near zero during the past decade, a 98-percent reduction since 1988, according to Diesel Technology Forum Executive Director Allen Schaeffer.

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DETERMINING OPERATING COSTS

How to get a better picture of your total costs for more accurate bids and profitable projects

Industry estimates put owning costs at 25 percent to 30 percent of the total machine owning and operating picture. These costs, which include finance, interest, depreciation and tax, tend to be fairly straightforward. The remaining balance – 70 percent to 75 percent – includes labor, fuel, parts, repairs, operator expenses and other related items that make up the operating component, which is more variable and more comprehensive.

Figuring operating costs is the more difficult of the two because so many factors go into them. For example, an excavator may be used in several applications, each of which probably causes costs to fluctuate. The same machine may be used in performing demolition and running attachments, such as hammers, shears and thumbs. It may not take any more power or fuel than digging, but the conditions put more stress on a machine and may require added maintenance and repair.

Even digging isn't so straightforward. Ground conditions can vary greatly within one particular geographic area, and even on a jobsite itself. A trench could have different types of soils, as layers of topsoil, clay and rock could be encountered at varying depths.

Finally, where a machine is in its life cycle makes a difference. A new machine is going to cost little in repairs, therefore, more of its production time is going to profit. An older unit that's paid for may seem like it's more profitable. However, it could be more prone to breakdown and run less efficiently. There's a chance it's making money, but not as much as the owner thinks, if it needs frequent repair.

Factor in the operator

The person running the machine has to be figured into the operating costs as well. A more experienced operator will obviously be more productive than a rookie, but will also likely cost more per hour in wages.

Another item to consider with operators is how they operate and take care of a machine. While many of today's machines have several working modes designed to match applications for maximum efficiency, longtime operators may be accustomed to always running at full power and idling during nonproductive times. That adds to maintenance and repair outlays.

Continued . . .

Labor, fuel, parts, repairs, operator expenses and other related items make up operating costs, which are considered the largest part of owning and operating a machine. It's essential to know these costs to create accurate bids.

Many factors included in equipment operating costs

. . continued

Applying history, modern technology for savings

Experience plays a valuable role in getting to true operating costs. Factoring in historical trends and data from past projects is a good starting point for determining how to approach the next estimate and final bid. Accurate records of conditions and information on how operators and machines have worked and been used under similar circumstances provide a solid reference point.

Relying strictly on past project costs has shortcomings, however. For example, if personnel don't provide information, such as fuel usage, hours of production versus idle time and maintenance records, it's difficult to get a true cost picture. It's not always feasible for an owner to visit a jobsite, especially if multiple projects are spread out over a large area. Fortunately, during the past few years, improved technology, such as Komatsu's KOMTRAX system, allows owners and their personnel to monitor information remotely, including the mode a machine worked in, how often a machine idled, fuel usage, production factors and other critical information. Reports from these systems, along with other records, can be very useful for future reference.

Having this information allows contractors to address cost-saving practices such as shutting a machine down during nonproduction times or training operators to use a more efficient working mode. Over time, operating costs may be lowered, profit increased and more competitive estimates produced.

Technology, in the form of bidding and estimating software, can help produce accurate bids. Programs designed to work with jobsite plans allow users to trace existing and proposed elevations, then the programs will calculate the amount of earth to move by cut, fill or both. Users should take into account that calculations can be off by a few percentage points and programs don't always factor in types of soil, obstructions or other items that may affect production. A site visit should be made to evaluate those factors.

On a visit, users can set up a GPS system to create a picture of the existing site. That information then goes into a design file of the proposed project to create a model used to estimate how much earth to move. That file can also be used with a 3D machine-control system, which provides accurate grading and reduces costs associated with material overages, staking and surveying.

Calculating true operating costs that accurately reflect what to charge for individual machines on each job takes practice, but it's a business component that every contractor needs to master in order to produce accurate bids that result in profitable projects. ■

Figuring operating costs can be challenging because a particular machine may perform multiple tasks, such as an excavator that's used to dig and set pipe. Contractors must consider how each application affects production and fuel usage, and use other critical information to better calculate accurate operating costs.

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D61i-23: A REVOLUTION IN DOZING

New *intelligent Machine Control* dozers maximize production, lower costs with fully automated blade control

Jason Anetsberger, Product Manager, Intelligent Machine Control

Komatsu's exclusive intelligent Machine Control (iMC) is a fully integrated, factory-installed, 3D machine control system. It provides automatic grading from start to finish and is designed to increase productivity while reducing material costs.

When contractors started using 3D machine control, they quickly realized the efficiency and productivity advantages the systems provided, including reduced operating and material costs. Komatsu takes the technology to the next level with the introduction of its first *intelligent Machine Control* dozers, the D61EXi-23 and D61PXi-23.

"Dozers equipped with conventional aftermarket 3D machine control are easy to spot on the jobsite, because they're the ones with a mast or masts attached to the blade and cables running from a mast to the cab," explained Jason Anetsberger, Product Manager, Intelligent Machine Control. "Komatsu eliminated those by integrating the 3D machine control technology into the machine, with sensors located in the cylinders and a cab-top antenna. Unlike traditional machine control systems, Komatsu's *intelligent Machine Control* is fully integrated and factory-installed."

The integrated *intelligent Machine Control* system features stroke-sensing cylinders and a cab-top antenna that eliminate the traditional mast(s) and cables associated with 3D machine control. Operators can also select modes to match material conditions.

Components of the integrated *intelligent Machine Control* system include robust stroke-sensing hydraulic cylinders and a chassis-mounted enhanced inertial measuring unit, as well as the cab-mounted antenna and in-cab control box. Designing the GPS components into the machine improves durability, and the cab-top antenna provides accurate surface data by measuring actual elevations as the dozer continuously tracks during operation. The system measures progress in real time.

Seamless mode switches

The *intelligent Machine Control* D61i-23 dozers provide automatic blade control from rough cut to final grading. Inside the cab, an easy-to-use operator interface uses design files and interacts with the dozer's machine-system controls, including blade control – the D61i comes standard with a power-angle-tilt blade – and tractive-effort management. As the dozer approaches final grade, it automatically and seamlessly switches from rough dozing to finish grading.

"Typically, users rough cut to within a few inches of final grade before turning on the automatics of their machine control system to get to final grade," said Anetsberger. "That's because if the operator uses traditional machine control in automatic during rough cut, the machine tries to push or cut too much material, and, inevitably, the tracks slip. That can reduce productivity, cause unnecessary wear on the tracks, increase fuel usage and increase overall owning and operating costs.

"We're reducing or eliminating those issues with the D61i," he added. "During rough cut, if

Komatsu's new D61i-23 dozers provide grade control from rough dozing to finish grading. The integrated 3D machine control system automatically raises and lowers the blade to provide maximum production with reduced track slip and better fuel efficiency.

Brief Specs on *intelligent Machine Control* Dozers

Models	Net Hp	Operating Weight	Blade Capacity
D61EXi-23 D61PXi-23	168 hp	39,441-41,381 lbs.	4.5-5.1 cu. yds.

the system senses the blade has excess load, it automatically raises to minimize track slip and maintain forward momentum. The blade also automatically lowers to push as much material as possible, so it's designed to maximize production under all situations."

The advantages of the new Komatsu *intelligent Machine Control* dozers are significant, with field tests showing efficiency improvements of up to 13 percent compared to conventional aftermarket machine control systems, depending on factors such as operation and conditions.

"Machine owners can realize those benefits even with less-experienced operators," said Anetsberger. "Operators can make changes through a simple touch-screen control box. To ensure maximum productivity and efficiency, they can adjust machine control settings from presets to allow for material conditions. Four dozing modes – cut and carry, cutting, spreading and simple grading – are available, along with light, normal and heavy load modes."

Anetsberger noted that the new technology has similarities to traditional aftermarket machine control systems. "Customers' base stations and project design files are still necessary to operate the new D61i dozers. In addition to the unique benefits of the D61i-23, all of the key benefits of conventional machine control remain, such as less staking and lower surveying costs."

100-percent Komatsu supported

Not only does the customer benefit from the improved efficiency and durability of the D61i-23's integrated machine control system, but also from the service and support aspect. Komatsu and the local Komatsu distributors fully support the factory-installed *intelligent Machine Control* system. The customer can rest assured that Komatsu is 100-percent behind both the base machine and the on-machine *intelligent Machine Control* technology.

"As with other Tier 4 Interim machines, the D61i-23 dozers are backed by Komatsu CARE, which provides complimentary scheduled maintenance and complimentary KDPF exchanges. In addition, each Komatsu distributor will have a dedicated Technology Solutions Expert (see related story) whose responsibilities include initial calibration of the machine and ongoing support. Our extensive field testing shows these intelligent dozers can make any user productive and efficient, and we encourage anyone looking for that to demonstrate one." ■

Continued . . .

Komatsu distributors' staff support new technology

. . continued

Technology Solutions Experts ready to help you deploy 3D machine control systems

When buying a new machine, confidence comes in knowing that the distributor and manufacturer will stand behind it with strong support. That's always the aim of Komatsu, and it's taken additional measures with the introduction of its new *intelligent Machine Control* D61i-23 dozers.

"The D61i dozers feature fully integrated, 3D machine control components that Komatsu factory installs," said Ron Schweiters, Product Marketing Manager of Komatsu's recently formed Intelligent Machine Control Division. "Our iMC Division goals include making equipment owners and operators aware of technology, such as 3D machine control systems, that is proven to lower owning and operating expenses by increasing productivity and reducing material costs."

Komatsu's new *intelligent Machine Control* dozers build on those attributes with an integrated system that eliminates the mast, or masts, and cables associated with conventional, aftermarket 3D machine control grading systems. The D61i-23 dozers instead have a cab-top antenna, stroke-sensing cylinders and a chassis-mounted enhanced inertial measuring unit, among other items. All were designed to exacting standards with durability in mind.

"Whenever new technology is introduced, there's a bit of trepidation, and we want to take that away by letting customers know we're fully prepared to back those machines," said Mike Salyers, Product Marketing Manager, iMC. "One way we're doing that is through dedicated Technology Solutions Experts (TSE). The TSE plays a key role in helping customers understand the technology and how they can implement it into their fleets."

Part of the support they provide is the initial calibration of the new *intelligent Machine Control* machines. TSEs have spent numerous hours training to make this critical step go smoothly. Once calibrated, the machines are ready to work, providing automated blade control from initial rough cut to final grade.

"From that point, the D61i dozers work much like traditional dozers, communicating with the user's own machine control base unit and design files," said Salyers. "The TSEs can help with these steps, too, by working with operators to dial-in the project, select proper modes based on site and material conditions and maximize productivity and fuel economy. They can also support traditional machine technology." ■

Komatsu distributors now have Technology Solutions Experts, whose role is to provide initial setup of the new D61i-23 dozers, along with ongoing support. They've spent many hours training to ensure customers' technology needs are met.

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CHRIS POTTER

New Technology Solutions Expert helps customers maximize efficiency, production with grade-control systems

Equipment technology continues to evolve, and as it does, so does Road Machinery & Supplies' ability to support it. The company recently added its first Technology Solutions Expert, Chris Potter, whose responsibilities include ensuring customers get the most out of the latest machinery innovations.

Based out of the Road Machinery & Supplies Savage headquarters, Potter supports customers' technology needs throughout Minnesota and Iowa, with a particular focus on Komatsu's new D61i-23 dozers that feature *intelligent Machine Control* (see related articles). Potter's work as a grading superintendent for a civil contractor provided him with a solid background for the new position.

"I had responsibility for the company's GPS work, including building jobsite models," said Potter. "I understand the value grade-control systems bring to the table, and the integrated system of the new D61i-23 dozers really builds on that. Komatsu's new system will further reduce costs associated with production, maintenance, safety and theft. The benefits are huge."

Ongoing support

Potter's responsibilities as a Technology Solutions Expert include initial calibration of the new D61i dozers, which feature integrated machine-control technology. He also sets up demonstrations and provides ongoing support.

"I encourage anyone interested in seeing how these new dozers – or other technology such as conventional grade-control systems – can help efficiency and production, to contact me at the Savage branch to set up a demo. I believe everyone who wants a machine that will automatically grade from rough cut to finish will be impressed by the D61i dozers. We've already had several customer demonstrations, and the feedback has been nothing but positive."

In addition to handling grade-control systems, customers in southern Minnesota can contact Potter for parts and service needs.

"From a contractor's perspective, I understand how valuable customer service is," said Potter. "As a Product Support Rep and a TSE, my goal is to provide the best service available. That's Road Machinery's goal as well, so our values line up well. That's why I'm excited about this position and getting to know and help our customers."

Chris and his wife, Katy, recently celebrated their child's first birthday. They enjoy spending time together as a family. ■

Chris Potter recently joined Road Machinery & Supplies as the company's Technology Solutions Expert and as a Product Support Representative. His responsibilities include working with customers to maximize technology in their businesses, with a particular focus on *intelligent Machine Control* in the new Komatsu D61i-23 dozers.

COMPLIMENTARY TIER 4 SERVICES

KOMATSU CARE™

Komatsu CARE for Komatsu Tier 4 Interim models is a new, complimentary maintenance program designed to lower your cost of ownership and improve your bottom line. It provides factory-scheduled maintenance on the machines for the first three years or 2,000 hours, whichever comes first. This includes up to two exchange Komatsu Diesel Particulate Filters. Be sure to contact your Komatsu distributor for all the details.

Once again, Komatsu leads the industry.

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intelligent MACHINE CONTROL EXPERIENCE

New dozers take center stage at Komatsu event

Customers and Komatsu distributor personnel got an up-close look at the future of *intelligent Machine Control* technology during a recent iMC experience event focused on the new D61i-23 dozers (see related articles for more detailed information) at the Komatsu Training & Demonstration Center in Cartersville, Ga.

During the event, attendees had the opportunity to see the innovative technology that provides fully automated blade control from rough cut to finish grade, as well as operate the D61PXi-23 models. The new dozers feature factory-integrated 3D machine control that functions without the blade-mounted mast(s) and cables associated with conventional aftermarket systems.

Additionally, Komatsu highlighted the latest Topcon technology for productivity reporting and remote machine monitoring at the Training & Demonstration Center. In it, attendees could see software designed to work with GPS systems to track production in real time.

"In my many years with Komatsu, I've seen the development of numerous innovative machines and new technology, but I believe this is the most exciting product I've ever been involved with," said Peter Robson, Director of Intelligent Machine Control. "The efficiency improvement, greater value and simplicity of operation of the D61i-23 exemplify the leading innovations that customers have come to expect from Komatsu. It was a pleasure to see so many interested in this new machine and the technology behind it. The feedback we received was very positive, and many who attended saw how the D61i-23 could be a valuable asset to their operations." ■

Peter Robson, Director of Intelligent Machine Control

Komatsu demonstrated the latest Topcon software designed to work with machine-control systems so users can track production data in real time.

Attendees had the opportunity to see and operate new D61PXi-23 dozers with integrated 3D machine control technology that requires no blade-mounted mast(s) or cables running from mast(s) to cab.

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NEW MATERIAL HANDLERS

Robust design provides excellent lift capacity, maximum efficiency in heavy-duty applications

Just because you're working in tough applications, you shouldn't have to sacrifice fuel economy or productivity. You don't have to with Komatsu's new PC390LC-10 and PC490LC-10 material handlers that provide excellent lift capacity and efficiency for scrap yards, terminals and other bulk-material-handling applications.

"Komatsu material handlers are built using the best features of our PC390 and PC490 base excavators, which are proven performers," said Senior Marketing Engineer Sue Schinkel. "For example, the engine pumps, valves and cylinders work together for maximum efficiency and productivity. There's also a material-handling package built into the base machine for superior lift capacity, speed and balance."

Several features contribute to maximum lift capacity, including heavy counterweights; reinforced revolving and center frames; and larger boom and arm cylinders. Load-holding valves are also standard for added protection on the boom and arm cylinders. Two- or three-piece fronts are available, and both incorporate a reinforced box-section design that uses high-strength alloy steel.

"We beefed up the X-frame assemblies, making them very robust," said Schinkel. "The material handlers can pick up as much over the side as they can from the front, and carry that load a full 360 degrees. That's a distinct advantage in a scrap yard where the working area may be very tight. In applications not involving maximum lift, the operator can use a Smooth boom-mode setting for more precise positioning operations."

High-efficiency pumps

For greater efficiency, the PC390LC-10 and PC490LC-10 material handlers have large-displacement, high-efficiency pumps that provide higher flow output at a lower engine speed. Optimized Hydraulic System valves adjust work equipment speed – boom raise, arm in and grapple/bucket open-close – for smooth, precise operation.

Controlling the work equipment is easy, using the multifunction buttons on the operator control levers for grapple open-close-rotate and magnet discharge-charge. Operators can improve visibility to the application with a 78-inch cab riser that has manual tilt for transportation.

"When Komatsu designed its Tier 4 Interim machines, it took the opportunity to look beyond meeting emissions requirements and build machines that offer a combination of greater horsepower and fuel economy," said Schinkel. "We've brought that same intent to these new material handlers, and the results and feedback have been very positive." ■

Sue Schinkel, Senior Marketing Engineer

Go online or scan this QR code using an app on your smart phone to watch the PC490LCMH in action.

Brief Specs on the Komatsu Material Handlers

Model	Net Hp	Operating Weight	Reach
PC390LC-10MH	257 hp	92,940-95,010 lbs.	46-48 ft.
PC490LC-10MH	359 hp	126,530-128,940 lbs.	54-55 ft.

Beefed up X-frame assemblies, along with other robust features, allow Komatsu material handlers to pick up as much over the side as they can from the front, and carry that load a full 360 degrees. That's a distinct advantage in a scrap yard where the working area may be very tight.

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AN INTEGRATED APPROACH

Komatsu Exec VP Manufacturing says customer input, strong engineering result in better machinery

QUESTION: During the past few years, several new machines have been introduced, and many more are coming soon. Where does the manufacturing of these machines begin?

ANSWER: It starts with ideas from our engineering teams as well as input from our customers. Building a new model begins with a goal in mind to improve upon the previous base machine's already-proven performance and incorporate enhancements customers tell us they believe would make our equipment better. From that, we build a prototype and test it extensively, looking for further ways to provide more efficiency and productivity. By doing that, we ensure that when a machine goes into production, it will certainly meet and, we hope, exceed customer expectations.

As an example, our customers told us they would like machines that are plug-and-play ready to accept GPS machine-control systems. We have several models equipped with that as standard. We're now taking it a step further with our new *intelligent Machine Control* D61i-23 dozers, which feature integrated 3D control and a cab-top antenna that eliminates the masts on the blade and cables to the cab. Our thorough testing shows significant improvement in efficiency and productivity, even from operators with little or no experience.

QUESTION: It seems technology like this continues to play a greater role in machinery. Why is that?

ANSWER: It does, and we recently put together a new ICT (Intelligent Control

Continued . . .

Ken Furuse,
Executive Vice President,
Manufacturing

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

Ken Furuse joined Komatsu 31 years ago and has worked extensively in production planning and plant management, spending much of his time in Japan and throughout Europe. He was named Executive Vice President, Manufacturing, Komatsu America Corp., in January 2013 and is responsible for overseeing manufacturing operations, including U.S. plants in Peoria, Ill., Chattanooga, Tenn. and Newberry, S.C.

"One of Komatsu's greatest strengths is listening, especially to our customers who have guided many positive changes to our machinery throughout the years," said Furuse. "Our world-class engineers incorporate customers' input into building what I believe are the most efficient and productive machines in the construction and mining industries. It's why Komatsu has become a top equipment manufacturer with an ever-growing presence. I'm very pleased with how far we've come, but I'm equally, if not more, excited about where we're going."

One aspect Ken is especially enthusiastic about is increased technology. "Komatsu remains keen on developing and integrating new technology into our equipment, such as our new *intelligent Machine Control* dozers and KOMTRAX monitoring system. Both are shown to directly improve production while reducing owning and operating costs, which, in turn, improves the user's bottom line."

Ken and his wife, Ikuko, celebrate 28 years of marriage this year, and they enjoy playing golf together and taking nature walks. Ken is also an avid mountain hiker and has scaled about 70 peaks in his native Japan.

Komatsu: a leader in technology that benefits users

. . continued

Komatsu has manufacturing plants in Illinois, Tennessee and South Carolina that build construction and mining equipment for U.S. and world markets.

Executive Vice President, Manufacturing Ken Furuse said talking and listening to customers helps drive improvements in new Komatsu machinery.

Strong engineering practices and customer input not only help Komatsu meet emissions standards, but they make machinery more efficient and productive in the process, according to Furuse.

Technology) Division designed to promote and help customers implement these types of technology into their fleets and practices because it's proven to improve productivity and reduce owning and operating costs.

Komatsu continues to be very proactive when it comes to technology, and we're seeing benefits both for customers and for us as a manufacturer. KOMTRAX plays a major role, and we've continued to expand upon it from the perspective of customers, again, with their input. Now customers can use that information to track production, such as idle time and work load.

QUESTION: How else is Komatsu working for greater efficiency in the manufacturing process?

ANSWER: We've increasingly engineered genuine Komatsu OEM components and systems into our equipment. These systems work in harmony and increase efficiency. Even with that approach, we still partner with outside suppliers for a variety of items, and this is a good thing because they also bring us new ideas that lead to improvement. Our goal is to use the highest-quality local and regional suppliers as this reduces environmental impact and costs associated with transportation.

QUESTION: Where is Komatsu in terms of meeting Tier 4 Final emissions standards?

ANSWER: Our approach with each emission standard was not only to meet it, but design and manufacture machines that improve upon previous models. Because we're a strong engineering company, Komatsu has done that and our data proves it.

Initial Tier 4 Final machines begin rolling out this year with smaller engine-horsepower models, and larger machines are coming in subsequent years. As with past standards, we're on track to meet or exceed the deadlines of Tier 4 Final. ■

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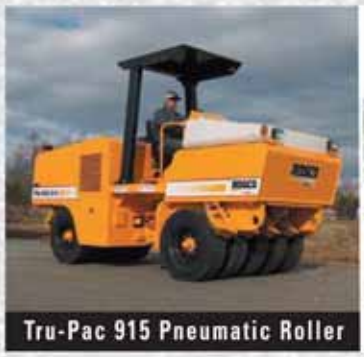

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SHIFT IN PRACTICE SAVES MONEY

Initiative changes contractor's view of idle time, its effect on bottom line

Wade Williams, Owner, Wade Williams Dozer Service

When Wade Williams bought his first piece of equipment eight years ago, he didn't put much thought into starting an excavation business. He just wanted to clean up around the farm.

"Neighbors saw I had an excavator and started coming to me asking if I'd do some work for them," said Williams, who is a one-man operation with Wade Williams Dozer Service. "The next thing I know, I'm cleaning up fence rows, clearing timber, ditching and building pads. I still do a lot of that private farm work, as well as working with farmers and the NRCS (Natural Resources Conservation Service) on soil-conservation projects that are put out for bid. Things really took off."

Wade Williams, Owner of Wade Williams Dozer Service, said participating in Komatsu's No Idle Initiative changed his practices when it comes to idling. "It opened my eyes to how much excessive idling was costing me ... now, idle time is always on my mind."

Williams quickly began adding equipment, including a Komatsu excavator. He currently owns a PC240LC-10 excavator and a D51 dozer. "I've run other brands, but what I've found is that Komatsu is hands-down the leader when it comes to both equipment and support. They've shown me ways to increase my bottom line, including bringing idle time to my attention. I really never gave it much thought before."

Komatsu and Williams' local distributor contacted him about participating in Komatsu's No Idle Initiative, which was designed to increase awareness of excessive idle time and easy ways to reduce it. Starting from a baseline idle time, Komatsu tracked participants over several months to chart and reward their progress. Williams earned a "Best of the Best" award, given to companies that reduced their overall idle time to 15 percent or less.

"My distributor sent me monthly reports showing a breakdown of idle time versus run time and documenting how much idling dropped," said Williams. "It makes so much sense, and I'm grateful they brought it to my attention. It opened my eyes to how much excessive idling was costing me in terms of wasted fuel, unproductive hours that contributed to more frequent service intervals, and unnecessary wear and tear.

"Participating in the initiative changed my way of thinking long term," he added. "As a one-man operation, I'm moving back and forth between machines, and I'd often leave one machine running while I worked in another. Instead, when significant nonproduction time is coming, I idle a machine for a few minutes to let it cool down, then shut it off, as opposed to just leaving it idle until I come back to it. Now, idle time is always on my mind." ■

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SLIGHT IMPROVEMENT

ASCE raises infrastructure grade to D+, says increased investment is a critical need

America's infrastructure grade only marginally improved, according to the latest Report Card issued by the American Society of Civil Engineers (ASCE). Issued every four years, ASCE gave the nation a D+ this year compared to a D on its last report in 2009.

The ASCE Report Card is a comprehensive assessment of current infrastructure conditions and needs with assigned grades and recommendations for improvement. It's based on criteria such as capacity, condition, funding, future need, operation and maintenance, public safety, resilience and innovation.

The American Society of Civil Engineers' most recent Report Card graded the nation's infrastructure a D+, a slight improvement from the D it gave in its last report in 2009.

"A D+ is simply unacceptable for anyone serious about strengthening our nation's economy; however, the 2013 Report Card shows that this problem can be solved," said ASCE President Gregory E. DiLoreto, P.E. "If we want to create jobs, increase trade and assure the safety of our children, then infrastructure investment is the answer."

Six of 16 sectors measured saw some improvement: solid waste, drinking water, wastewater, roads, bridges and rail, with rail showing the biggest jump from a C- to a C+. Bridges also received a C+, which was the highest ranking for any sector except solid waste with a B-.

ASCE cited efforts by cities and states to address roads, bridges, drinking water and wastewater system upgrades, as well as private investment and short-term federal funding increases as reasons for improvements in some areas. It added that investment in funding infrastructure overall falls far short of what's needed.

According to the report, an estimated $3.6 trillion investment by 2020 is necessary for significant improvement. Based on current funding levels, there would be a shortfall of $1.6 trillion.

"We must commit today to investing in modern, efficient infrastructure systems to position the U.S. for economic prosperity," said DiLoreto. "Infrastructure can either be the engine for long-term economic growth and employment, or, it can jeopardize our nation's standing if poor roads, deficient bridges and failing waterways continue to hurt our economy."

The full report can be found online at www.infrastructurereportcard.org. ■

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"How will all this 'fiscal cliff' and 'debt ceiling' stuff affect my allowance?"

"Honey, I bought myself a used recreational vehicle!"

Brain Teasers

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

1. B J O __ __ __
2. H P S O __ __ __ P
3. R R E A B __ __ B __ __
4. L E R L O R __ __ __ L __ __
5. E M N O A R F F __ __ __ __ __ N

Did you know...

- Men who kiss their wives in the morning live five years longer than those who don't.
- The Sahara Desert expands at about one kilometer per month.
- The state with the longest coastline in the continental U.S. is Michigan.
- In Japan, watermelons are grown into the shape of a square so they are easier to stack and transport.
- Oak trees do not have acorns until they are 50 years old or older.
- By weight, bone is five times stronger than steel.
- The word "news" is actually an acronym standing for the four cardinal compass points - North, East, West, and South.
- The distress code "Mayday" comes from the French word, M'aide, which means "help me."
- Coconuts kill more people in the world than sharks do. Approximately 150 people are killed each year by coconuts.
- Europe is the only continent without a desert.

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Year	Mfgr./Model/Descr.	Hours	S/N	Price
2006	HYUNDAI ROBEX 210LC-7	1,159	N60614055	$89,000
2006	HYUNDAI ROBEX 210LC-7	3,345	N60614388	$136,500
2008	HYUNDAI ROBEX 250LC-7A	1,176	N70410143	$147,000
2006	HYUNDAI ROBEX 320LC-7	4,677	N90110519	$118,500
2006	HYUNDAI ROBEX 360LC-7	2,664	NA0110786	$95,000
2006	HYUNDAI ROBEX 450LC-7	2,736	NB0310040	$179,000
2007	HYUNDAI ROBEX 450LC-7A	2,000	NB0310100	$167,000
2008	HYUNDAI ROBEX 80-7	382	N10210183	$59,000
1993	KOMATSU PC150-5	7,675	6959	$27,500
2004	KOMATSU PC160LC-7	6,873	K40228	$79,800
2005	KOMATSU PC160LC-7KA	3,782	K40465	$97,600
1995	KOMATSU PC200LC-6	9,962	A81340	$39,000
2004	KOMATSU PC200LC-7	5,353	C50285	$93,840
2005	KOMATSU PC200LC-7L	2,470	A87188	$105,000
2007	KOMATSU PC200LC-8	6,082	C60859	$95,000
2007	KOMATSU PC200LC-8	3,349	A88389	$139,500
2008	KOMATSU PC200LC-8	2,725	A89083	$139,000
2006	KOMATSU PC220LC-8	6,754	A88265	$135,000
2008	KOMATSU PC220LC-8	3,880	A88675	$145,000
2008	KOMATSU PC300HD-8	1,327	A87048	$249,500
2005	KOMATSU PC300LC-7	9,780	85835	$95,000
2006	KOMATSU PC308USLC-3E0	5,026	30026	$145,000
2010	KOMATSU PC350LC-8	3,469	A10082	$291,900
2011	KOMATSU PC350LC-8	2,115	A10389	$245,000
2011	KOMATSU PC350LC-8	2,047	A10385	$237,000
2003	KOMATSU PC400LC-6LM	10,349	A85326	$75,000
2007	KOMATSU PC400LC-7E0	8,000	A87592	$149,000
1996	KOMATSU PC75UU-2	6,342	11593	$19,750

BACKHOE LOADER

2009	KOMATSU WB156-5	2,694	A63093	$37,500

WHEEL LOADERS

Year	Mfgr./Model/Descr.	Hours	S/N	Price
1995	CASE 721B	7,558	JEE0042087	$29,900
2006	HYUNDAI HL740-7	4,143	LF0110660	$77,550
2005	HYUNDAI HL757-7	2,026	46402025	$86,300
2005	KOMATSU WA250-5	7,841	70708	$59,500

CRANES

1977	MANITOWOC 4600		46379	$425,000
2000	POTAIN HD40A		86241	$69,500
2006	POTAIN IGO 50	23	402161	$145,000
2004	POTAIN IGO MA13		99022	$49,500

FORESTRY EQUIPMENT

2005	TIMBCO 425EXL	8,200	AT4C2665091405	$169,500
2000	TIMBCO T425D	13,506	AT4C-1801-062600	$79,500

COMPACTORS/PAVERS

1997	BLAW-KNOX PF5510	12,000	551019-11	$39,899
1997	BLAW-KNOX PF5510	6,729	551017-16	$32,500
1999	GILCREST PROPAVER 413	608	026162	$3,950
1980	GOMACO GP2500		MC11186-25	$35,000
	GOMACO GT6300	3,231	MC10649-01	$15,000
2006	DYNAPAC CA121PDB	750	60311412	$57,500
2005	INGERSOLL-RAND DD118HF	1,771	185186	$49,750
2007	VOLVO DD138HFA	2,117	193047	$62,500
2008	VOLVO DD24	1,200	196345	$24,500
2008	VOLVO SD45D	582	199389	$47,000
2009	VOLVO SD45D	147	201052	$53,800
2008	VOLVO SD77DX	375	197968	$59,500
1996	WACKER RD880V	3,900		$4,500

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2005 KOMATSU PC200LC-7L, 2,470 hrs., s/n A87188

CRAWLER DOZERS

Year	Mfgr./Model/Descr.	Hours	S/N	Price
2012	KOMATSU D155AX-6	1,777	81349	$449,000
2008	KOMATSU D61PX-15E0	1,475	B45768	$162,500
2005	KOMATSU D65PX-15	5,990	67483	$117,000

OFF-HIGHWAY TRUCKS

Year	Mfgr./Model/Descr.	Hours	S/N	Price
2007	KOMATSU HM400-2	5,645	2207	$290,000

SCRAP PROCESSING/DEMOLITION

Year	Mfgr./Model/Descr.	Hours	S/N	Price
2006	KOMATSU PC220LC-8	6,754	A88265	$135,000
2008	KOMATSU PC300HD-8	1,327	A87048	$249,500
2001	KOMATSU PC300LC-6	20,017	A84652	$54,800

AGGREGATE EQUIPMENT

Year	Mfgr./Model/Descr.	Hours	S/N	Price
2007	MASABA 8x14		200722	$129,000
	BARBER-GREENE Pugmill		70600758A4	$48,000

FORK LIFTS & BOOM LIFTS

Year	Mfgr./Model/Descr.	Hours	S/N	Price
2002	CROWN 30WRTT15	N/A	30WRTT152	$9,450
2006	LULL 1044C-54	5,355	160023639	$63,600
2004	LULL 944E-42	3,776	160003411	$46,500
2008	SKY TRAK 10054	2,186	0160034184	$82,500
2001	SNORKEL TB60	2,860	JA01095	$19,500

TRAILERS

Year	Mfgr./Model/Descr.	Price
1993	LOAD KING, 38' L	$19,500
2013	LOAD KING, 42' L	$58,400
2013	LOAD KING 503/554 SSSF, air ride with third-axle lift, Honda power, spreader bar with flip axle	$102,500

MISCELLANEOUS

Year	Mfgr./Model/Descr.	Hours	S/N	Price
1998	ALLMAND BROS Night-Light Pro light tower	1,670	9810NLP41	$3,200
	SHUGART 40-ft pkg. of eight sectional barges		2036+	$200,000

ATTACHMENTS

Year	Mfgr./Model/Descr.	S/N	Price
2005	BLAW-KNOX truck hitch	N/A	$4,500
2002	EMPIRE sand bucket for PC600	315694	$5,000
2003	EMPIRE 24" dig bucket		$2,620
1996	JRB 7.5-cu-yd rock bucket		$11,000
2002	JRB 8-cu-yd rock bucket		
2002	JRB 8.5-cu-yd rock bucket w/ bolt-on edge for WA600	0102-84434	$9,000
	JRB 90D1548 bucket for WA120	801-79108	$1,250
	KOMATSU 21" bucket with teeth and side cutters		
2006	KOMATSU 24" dirt bucket		$1,960
2007	KOMATSU 3.7 cu-yd stock pile for WA320	a/004107-KMX5069	$6,405
2009	KOMATSU 423-70-32200 4 cu-yd bucket w/BOE for WA380	2273	$7,350
2007	LEMAC 72" 4.05 cu-yd heavy-duty bucket	K0737	$13,700
	Pins, 1 3/8" W, center to center 8", 5 3/4" ear spread		
2008	WERK-BRAU 24" ditch bucket with BOCE and pins		$960
	ENTEK .90 cu-yd, 36" bucket for Deere 160	12528	$3,500
1996	HENSLEY 7.5 cu-yd rock bucket for WA600		$12,100
1997	HENSLEY 8.5 cu-yd rock bucket for WA600		$5,490
1994	NPK compactor	07991	$7,380
2003	EMPIRE mechanical quick coupler for PC160	C1058	$1,500
2006	JRB quick coupler	1105-170857-1	$4,100
2007	NPK fits various Komatsu models	1N6555	$5,500
2007	EMPIRE new pin-on forks, 3"x8"x84" tines, 43" high back	N/A	$8,500
2007	EMPIRE 84" pin-on forks for WA380		$8,135
2007	JRB quick-coupler mounting, 48" tines, 60" carriage	DEW1049	$5,025
2006	PEMBERTON 60" forks, 80" carriage, L-series hook-up		$4,900
2007	PEMBERTON 60" forks, 80" carriage, L-series hook-up	UF239960507	$5,150
2007	KINSHOFER new multipurpose grapple with HPX rotating drive	RG09834	$5,900
2007	KINSHOFER A08HPX-50 clamshell grapple with hyd. rotation	SG03778	$9,500
	Grapple for PC400-size machines, 5-4 tines	802A	$14,000
2006	ROTOBEC rotating grapple for PC78	740450	$4,500
2008	ROTOBEC clamshell grapple w/ electric rotation control	935568	$9,500
	ATLAS COPCO hammer w/ two mounts available - PC78 and PC95		
2006	STANLEY MB50EXS breaker w/ mount for Hyundai R210	003903	$28,000
2007	STANLEY MB70EXS breaker w/ mount for Hyundai R360LC-7	002590	$35,000
2000	SURESTRIKE 6000 breaker for excavator or loader	6001	$87,500
2004	BLAW-KNOX Genset, new, removed from machine prior to sale	551030-83	$4,500
2010	GENESIS GMP90 shear	94113	
2011	GENESIS GXP400R new shear	400-613R	$141,100
2012	GENESIS GXP700R rebuilt shear for PC400	700078R	$162,895

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