

DOWN TO EARTH

A publication for and about General Equipment & Supplies, Inc. customers • 2012 No. 1

AGGREGATE CONSTRUCTION, INC.

Minot material provider knows the best places





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2006 KOMATSU HYDRAULIC EXCAVATOR PC160LC-7KA, S/N K41200 (E32259), DIESEL ENGINE, CAB W/HEAT & AC, RADIO, 24" TRACKPADS, 9'7" ARM, AUX HYDRAULICS — 2-WAY FLOW, CP HYD THUMB 18" X 48"...POR

CRAWLER TRACTORS

 1967 CAT D6C (E29913), 24" SHOES, STRAIGHT DOZER, RIGID DRAWBAR HITCH, CANOPY
 \$17,000

 1988 CAT D5H (E32716), 20" SHOES, 10' WIDE, 6-WAY BLADE, ROPS CAB W/HEAT
 \$39,000

 1996 CAT D4HLGP (E33437), 30" PADS, 10'6" 6-WAY BLADE, OPEN ROPS W/BRUSH SWEEPS
 \$45,000

 2001 KOMATSU D39PX-21 (E23815), 25" PADS, DRAWBAR, SIDE-BOOM ATTACHMENT, CANOPY
 \$79,000

 2006 CASE 1150HLG (E30882), SINGLE-GROUSER SHOES, 6-WAY BLADE, 3.9-CU-YD CAPACITY
 \$79,000

 2004 KOMATSU D65PX-15 (E32775), 36" SINGLE-GROUSER SHOES, STEEL CAB W/ AC
 \$110,000

 2007 KOMATSU D65WX-15 (E32986), 32" SINGLE-GROUSER TRACK PADS, 6 WAY IMAC DOZER BLADE
 \$165,000

 2008 KOMATSU D61PX-15EO (E33250), 26" EXTREME-SERVICE SHOES, 3 SHANK RIPPER, KOMTRAX
 \$345,000

 2008 KOMATSU D85EX-15 (E33270), 26" TRACK SHOES, ROPS CAB, AC, HEATER, PRESSURIZER
 \$259,000

 2005 KOMATSU D61PX-15EO (E332712), 34" SINGLE-GROUSER SHOES, STEEL CAB, AC, HEATER
 \$259,000

 2005 KOMATSU D61PX-15 (E34712), 34" SINGLE-GROUSER SHOES, STEEL CAB, AC, HEATER
 \$115,000





WHEEL LOADERS

| 2006 KOMATSU WA500-6 (E33869), CAB W/ AC/HEAT/DFST, HYD SYSTEM | \$255,000 |
|--|-----------|
| 2003 KOMATSU WA380-5L (E32169), CAB W/ AC/HEAT/DFST | \$99,000 |
| 1998 John Deere 624h (E35186), Rops Cab W/ Heat/AC, 3.0-cu-yd Jrb Bucket | \$69,000 |

HYDRAULIC EXCAVATORS

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2010 KOMATSU CRAWLER TRACTOR
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DIRECT-INJECTED TURBOCHARGED
AIR-TO-AIR AFTERCOOLED ENGINE,
25" SNGL-GRSR SHOES, ROPS CAB W/
HEAT/AC/PRESSURIZER, 117" POWER
ANGLE TILT DOZER ASSY, KOMTRAX ...

.....\$137,000



2010 KOMATSU CRAWLER TRACTOR
D155AX-6, S/N 80920 (E28273), 5
TURBOCHARGED & AFTERCOOLED
DIRECT-INJECTED ENGINE, 36"
EXTREME-SERVICE SHOES, 3-SHANK
RIPPER W/VARAIBLE DIGGING ANGLES,







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AGGREGATE CONSTRUCTION, INC.

Minot material provider knows the best places to find and produce quality rock



Bob Cogdill, Owner/President

Ask Bob Cogdill about any project Aggregate Construction has done over the past 28 years and he can easily give you the particulars. That's because Cogdill, Owner of the Minot-based company, keeps a diary that lists where every product the company produced went.

"It's something I did even when I worked for another crushing company before Aggregate Construction was formed," explained Cogdill. "It's a way to not only tell what we've done, but a map to where we can access the materials to make the products our customers need. It's one of my most valuable tools."

Referencing the diary, Cogdill noted that the first job Aggregate Construction ever did was producing a few thousand tons of road gravel for Williams County. At the time, Cogdill and then Co-owner Robin Funke — Cogdill bought out Funke about four years ago — moved a crusher, loader and dozer to a site near Williston to produce their first product.

Aggregate Construction uses about a dozen Komatsu WA500 wheel loaders, including this Dash-6 model that's loading material into a screen at a pit near Blaisdell, N.D. "From the time we started using Komatsu it became our machinery of choice," said Owner Bob Cogdill.



Since then, Aggregate Construction has produced millions of tons of materials for a variety of customers with its custom crushing services. In addition to road gravel for counties and municipalities, the company supplies ready-mix asphalt and concrete plants. Products, coming from about 25 pits Cogdill owns or leases, range from washed sand and concrete rock to riprap. The company also has a wash plant.

"We work closely with customers to meet their specifications, and we provide testing to ensure that it does," noted Cogdill. "That, along with the quality we provide, helped us develop a solid reputation. It's allowed us to gain a sizeable number of repeat customers who turn to us as their supplier of choice.

"Of course, we do quite a large amount of bid work for governmental projects, such as highway construction," he added. "When that work is let, we provide contractors with a material price. We also bid as a prime contractor on projects where rock is the primary portion of the contract."

Taking chances pays off

Quality products and a solid reputation helped Aggregate Construction grow well beyond the western North Dakota area it originally served. While most of its work in the past couple of years has been within about a 100-mile radius of Minot, the company has traveled as far as Arizona. It's also worked in Wyoming, Nebraska and Montana.

"That Arizona job came about as a result of another job we were doing for a customer in Wyoming, and it allowed us to do some work we otherwise wouldn't have had in the winter," Cogdill pointed out. "For the most part though, we've stayed fairly consistent in terms of work through the years. About 75 percent of our work



To remove overburden and do reclamation and ripping, Aggregate Construction relies on Komatsu D155AX-6 dozers. "We've compared our D155 dozers to competitive brands of comparable size," said Owner Bob Cogdill. "Komatsus routinely use about 40 percent less fuel and, over the course of time, that's a huge savings that benefits our bottom line."

in the last few years has been right here in North Dakota, and most of the other 25 percent in South Dakota. In the past, it's been just the opposite."

One big reason for the shift has been the boom in North Dakota's oil industry. With it has come a huge demand for rock used to build well locations in the western part of the state. Aggregate Construction supplies railroad ballast and crushed rock.

"While we have a good reputation with local customers, the oil companies didn't really know us when they came in," recalled Cogdill. "We had the pits and materials, so we set up and started crushing with the idea in mind that they would need those materials eventually. We took a chance, which I've always been open to. The oil companies came, and we've continued to work with them. That's become a large element of our business."

Like other customers, the oil companies have a choice of how they get materials delivered to their sites. "Some customers choose to come to the pit with their own trucks, and some want us to truck the material for them. On projects we bid, such as road work, the trucking is part of the project. Sometimes, we'll crush and stockpile and customers will come with their



own loaders and trucks and haul it out. We do whatever the job and the customer call for."

Hardworking, award-winning staff

Cogdill estimates a typical project calls for about 250,000 tons of material, and Aggregate Construction usually has six or seven projects going at once. To meet demand, the company operates four crushing spreads that are run by Superintendents Tim Meckle, Kyle Pelton

In addition to Komatsu equipment, Aggregate Construction uses a Cedarapids MVP 380 cone crusher it recently purchased from General Equipment & Supplies.

Continued . . .

Rugged work calls for reliable equipment

... continued



Josh Cogdill, Superintendent



Tim Meckle, Superintendent



Rick Olson, Parts Manager/Truck Superintendent



Terry Sanders, Estimator



Kyle Pelton, Superintendent

and Bob's son Josh. Other key personnel include Safety Director/Materials Engineer Max Schriock, Estimator Terry Sanders, Parts Manager/Truck Superintendent Rick Olson and Office Manager Marilyn Lundy.

"Hard work has been one factor in this company's success, but just as important is who does that work," said Cogdill. "Several people have been here a decade or more, including Tim, who's been here more than 20 years. The people who work here are among the best you'll ever meet. There's absolutely no way Aggregate Construction would be where it is today, or able to do what we do, without them."

Cogdill notes they've helped Aggregate Construction garner recognition through the years, including Quality Awards from the North and South Dakota Departments of Transportation, as well as Safety Excellence Awards.

Appreciates Komatsu, General

In addition to a hardworking staff, Cogdill credits Komatsu equipment for ensuring operations run productively. His first machine was a WA500 wheel loader, purchased about 15 years ago. He now has about a dozen of the machines for stockpiling, charging crushers and loading trucks. In addition, he has five D155 dozers, used to remove overburden and reclaim pits.

"This business requires equipment that can not only stand up to rugged conditions, but do



Dave Solper, General Equipment & Supplies Minot Sales Representative/Branch Manager, (left) works with Aggregate Construction Owner/President Bob Cogdill on purchases and rentals of Komatsu and Cedarapids equipment. "Whenever we've needed something, they've been right there to help," said Cogdill.

it without costing us downtime," said Cogdill.
"From the time we started using Komatsu, it
became our machinery of choice. There are several
reasons we continue to use Komatsu equipment,
including ease of operation and productivity,
which both the wheel loaders and dozers provide.
Another standout feature is fuel efficiency.

"For example, we've compared our D155 dozers to competitive brands of comparable size," he continued. "Komatsus routinely use about 40 percent less fuel and, over the course of time, that's a huge savings that benefits our bottom line. Plus, they have excellent power. Much of the work we do in South Dakota involves harder rock, which means we have to rip it. The D155s get through it with no problem."

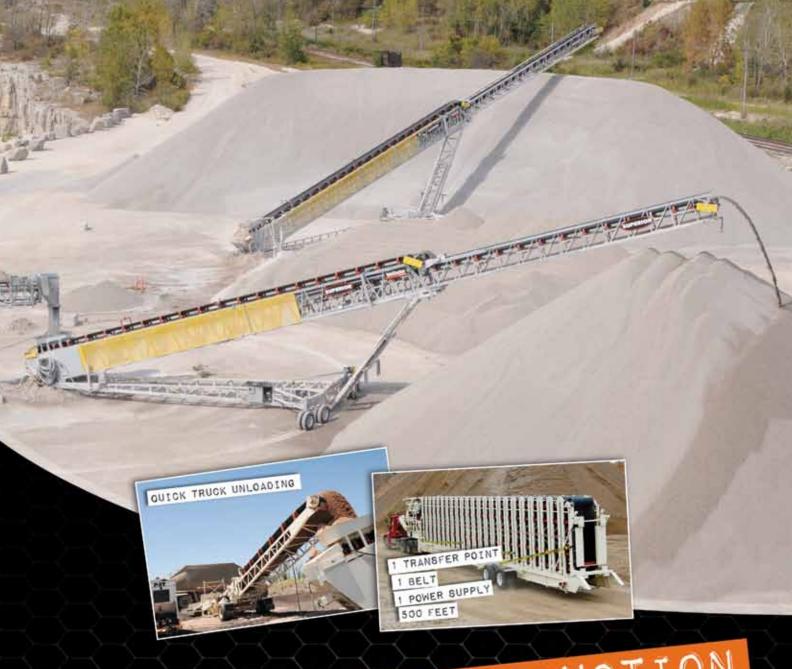
In addition to Komatsu equipment, Aggregate Construction recently purchased a Cedarapids MVP 380 cone crusher. All Komatsu and Cedarapids machinery was purchased from General Equipment & Supplies' Minot store with the help of Sales Representative/Branch Manager Dave Solper. "As much as we like Komatsu and Cedarapids equipment, we appreciate Dave and General even more," insisted Cogdill. "They've been excellent about finding us the equipment we need. For the most part, we handle service, using parts purchased from General. Whenever we've needed parts or service assistance, they've been right there to help."

It remains about quality

Much has changed through the years, but at Aggregate Construction, there is one constant — quality products. Cogdill intends that to always remain the case, even as his business booms along with the ever-expanding oil industry in North Dakota.

"It still comes down to making quality products to specifications — always has, always will," observed Cogdill. "Just because the oil industry brought additional business, doesn't mean we can sit back and relax our standards. If we do that, customers will go elsewhere."

With his son Josh working full time now for Aggregate Construction, Bob's passing along that commitment. "Of course, we have the diary to fall back on, and that would give him a good start if he wants to take over the business someday. I hope that's the case."



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RALLY FOR ROADS

AED Chairman among those urging Congress to pass multi-year surface transportation bill



Larry Glynn, Chairman, Associated Equipment Distributors (AED)

Americans cannot afford to wait for a new highway bill while Congress plays politics, said 2012 Chairman of the Associated Equipment Distributors (AED) Larry Glynn at the 2012 Rally for Roads on the National Mall in March.

"Our nation's transportation infrastructure is old and overworked," Glynn told members of the media prior to the rally. "It is past time that lawmakers address the millions of hours and billions of dollars that Americans spend idling in traffic. It is time, for the good of our nation, that Congress put aside partisan battles and put America back to work with a robust, bipartisan, multi-year highway bill."

The 2012 Rally for Roads brought together approximately 500 transportation stakeholders from across the country to urge Congress to pass a fully funded, multi-year, surface transportation bill. AED is a proud sponsor of the Rally for Roads, the nation's largest transportation funding advocacy rally.

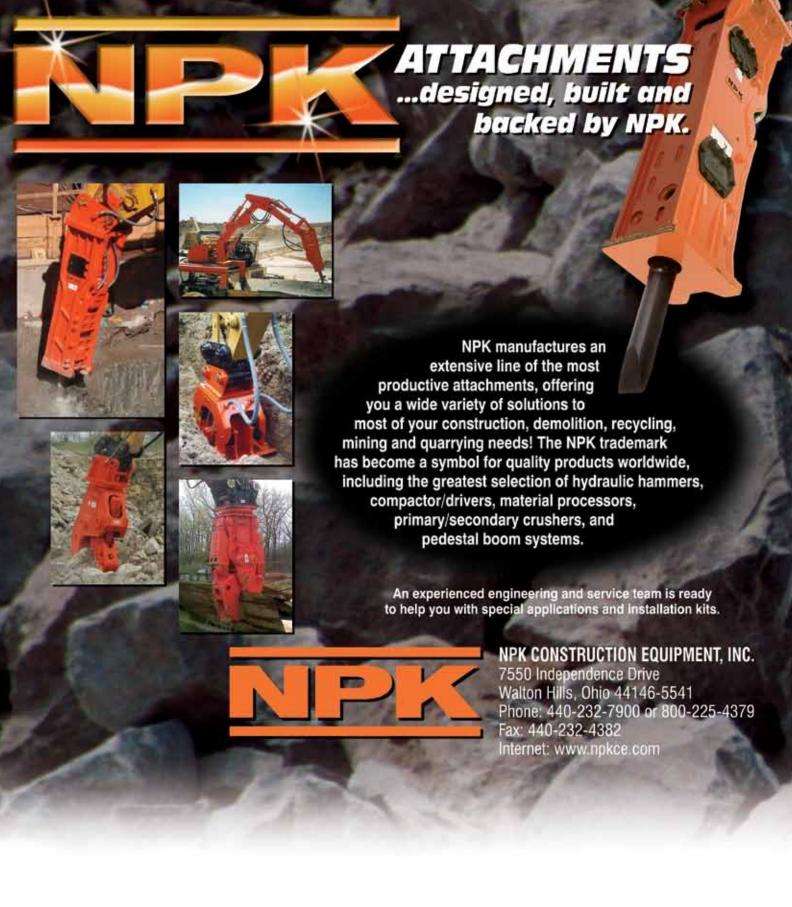
The host of speakers, which included Senate Environmental and Public Works Committee Chairman Barbara Boxer and House Transportation & Infrastructure Committee Chairman John Mica, reminded lawmakers of the positive economic benefits of transportation investments that create jobs and spur economic growth.

"A new highway bill resolves the uncertainty surrounding federal highway spending and encourages investment — no one wants to invest in an uncertain market, yet those are the conditions we face because of congressional inaction and extension after extension. When Congress passes a highway bill, America gets to work; factories get busy," said Glynn.

According to a recent AED-commissioned study by researchers at the College of William & Mary, each dollar spent on infrastructure generates roughly double (\$1.92) the spending in direct and indirect economic output. During a 20-year period, each dollar in aggregate infrastructure spending will generate 96 cents in tax revenue, making infrastructure investment a value-added investment that pays for itself in the long term.

An AED-commissioned study showed each dollar spent on infrastructure generates roughly double the spending in direct and indirect economic output. AED Chairman Larry Glynn led an effort to urge Congress to pass a new multi-year surface transportation bill during the Rally for Roads in March.







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THERE'S AN APP FOR THAT

How advances in technology are helping significantly lower construction costs

Want to see blueprints on your smartphone or tablet? Want to instantly communicate from the jobsite to the office or to the engineering firm that created the blueprints? Want to see the parts manual for your specific machine so you can order oil, filters or other items for maintenance? Chance are, as the saying goes, "There's an app for that."

Technology in construction continues to expand and evolve as quickly as in other industries, with seemingly new ways to make the jobsite, as well as the people and machinery on it, more efficient and cost effective. In fact, it's predicted that within a very short time, the jobsite could be totally paperless.

A recent article in Constructech magazine titled "The Paperless Jobsite," said "Technologies like Web collaboration and 3-D modeling have

Technology, such as tablets and smartphones, is increasingly being used on jobsites, with apps that allow instantaneous information about building plans. Many envision a "paperless" future where printed items, like blueprints, will no longer be needed.



empowered construction teams with more data than ever before. Devices like tablets and smartphones enable ... professionals to carry such data with them wherever they go."

A March TechCrunch.com article ("How Tablets Will Transform Construction") listed a paperless jobsite as one of three advantages of using mobile devices. The other two were better communication and analytics. The article describes a scenario where someone in the field needs clarification from an architect. Instead of heading to the job trailer to look at paper blueprints, "That person can just open up a blueprints app, mark the problem and send out an email right there."

Such technologies are designed to save time and money, and more and more companies are embracing it, according to an Associated General Contractors of America (AGC) survey. Results showed 55 percent of businesses plan to invest in IT departments this year. Twenty-four percent planned to switch financial, job costs or operational software to cloud computing.

"As a result of the tight market conditions, firms are trying to find the best way to leverage their investments in new information technology," said Roger Kirk, President and CEO of Computer Guidance in another recent Constructech article that highlighted the AGC survey and report, "A Look Ahead: Technology in 2012." "Contractors are looking for software and technology that increase the efficiency of existing staff and allow firms to do more with fewer people," noted Kirk.

GPS systems get good grades

Excavation equipment is one area where technology has made huge strides. Estimating software has been available for several years, allowing companies to do digital takeoffs,



The latest buzz in the construction industry is the use of Building Information Modeling, or BIM, which follows a building's "history" from initial planning through its entire life cycle, including eventual demolition. All aspects are factored in, making a model plan of the building to create better efficiency and job costing.

replacing the older, by-hand methods. However, in the past few years, there's been a trend that allows companies to take site-grading plans in digital format and plug them directly into a telematics device on a machine.

Equipment manufacturers, such as Komatsu, now offer machinery that's "plug-and-play" ready, making it easier for users to connect to 3-D, machine-control systems. Using GPS, these systems can control machine hydraulics, in turn, allowing a site to be put to grade more quickly. Labor costs can be saved by eliminating a grade checker. Or, if operators are checking grade, they don't have to leave the cab to do it, meaning more time spent inside the machine and increased production.

"The cost benefits can be substantial, starting with the elimination of staking," said Erik Wilde, Komatsu Vice President, ICT Business Division. "Users can grade the site in fewer passes, minimizing rework and overexcavation. That helps lower costs for the equipment user, who's using less fuel and fewer machine hours, as well as the project owner's cost of materials because there's less waste."

GPS systems are gaining prominence in utility installation and excavations, such as

footings and basements, with several types available: one-dimensional that provides a simple depth gauge, two-dimensional for accurate bucket position relative to slope and three-dimensional that gives accurate machine and bucket position anywhere on site, according to the article "Computer Grade Excavation" in the November issue of Utility Contractor. "The type of application and size of the job usually determine whether a 1-D, 2-D or 3-D system is the best fit," it points out.

"An excavator guidance system significantly reduces the need to check grade because operators have real-time, in-cab feedback on their progress," the article explains. "They always know where they are relative to grade ... they can quickly check grade and slopes by placing the bucket or tool anywhere on the site."

The article's author, John Bohlke, explains that getting to the proper depth more quickly, saves not only time, but has another distinct advantage.

"More jobs could be completed between service intervals," noted Bohlke. "A greater percentage of the hourly charge for excavation services can go toward profit and less toward maintenance — in other words, this practice decreases variable costs per project."

Continued . . .

Technology speeds construction, improves accuracy

.. continued

Monitoring systems can reduce O&O costs

Of course, all machinery requires maintenance and keeping up with it is an important way to keep owning and operating costs low. Maintenance technology continues to expand, with equipment manufacturers putting systems on machines that allow owners to track hours, among other things.

An example is the KOMTRAX remote machine-monitoring system, which Komatsu has included as standard on its new machinery for several years. Through a secure Web site, owners can view a machine's usage and location.

"Both our distributors and our customers are more and more 'mobile,' so the information can be accessed from anywhere with Internet connection. The equipment owner or fleet manager can view a machine's hours relative to a service interval," said Goran Zeravica, Distributor Operations Development Manager, Machine Support Programs. "That helps them be proactive in scheduling a machine's downtime to have the service performed and ensures it's done on time. It eliminates guesswork.

"It also helps in terms of seeing trends, such as idle time," he added. "For instance, if idle time

GPS systems have gained prominence during the past several years because they offer more efficient excavation and grading with less overexcavation and waste.



is excessive, the owner knows and can address it with the operator. Eliminating excessive idling keeps unproductive hours to a minimum. That lengthens time between services and conserves fuel among other benefits."

Systems such as KOMTRAX also monitor error codes. "The system alerts us and the distributor, and we can relay that information to the owner and operator and tell them if a machine needs to be shut down," said Zeravica. "We can dispatch service personnel to the site quickly, knowing the error code and the potential issue before they get there. It makes for a faster diagnosis, reducing downtime."

Part of a growing trend

Before, during and after site construction, excavation contractors can coordinate with a project owner and general contractor to record their work. In today's marketplace, that may become part of an overall technological push in construction known as Building Information Modeling or BIM. According to the AGC survey, BIM is one of the fastest-expanding areas of technology in 2012. Forty-seven percent of respondents expect it to grow.

BIM takes into account not only the design of a building, but its entire life cycle. It involves three-dimensional building plans as well as "envisages virtual construction of a facility prior to its actual physical construction, in order to reduce uncertainty, improve safety, work out problems, and simulate and analyze potential impacts. Subcontractors from every trade can input critical information into the model before beginning construction. Waste can be minimized on-site and products delivered on a just-in-time basis rather than being stockpiled on-site," according to Wikipedia.

Additionally, BIM can bridge the information loss that often occurs when a project is handed from design team to construction team to building owner/operator. Using BIM, each group can add to and reference back to all information they acquire during their period of contribution to the project. Those who support BIM say it improves visualization and productivity, facilitates coordination of construction documents, links vital information, increases delivery speed and reduces costs.

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TIER 4 INTERIM AFTER YEAR ONE

Customers seeing benefits from Komatsu machines designed to meet latest emissions standards

A little more than a year ago, Komatsu introduced its first machines designed to meet Tier 4 Interim standards, which dramatically reduce emissions in the 175- to 750-horsepower range. On nearly every machine, Komatsu went beyond just meeting the regulations, working to improve performance and efficiency. In some cases, Komatsu replaced the predecessor machines with new model numbers to better reflect changes, such as operating weight.

Komatsu released five excavators (PC490LC-10, PC390LC-10, PC360LC-10, PC290LC-10, PC240LC-10), two dozers (D155AX-7, D65-17 in EX, PX and WX models), two articulated haul trucks (HM300-3 and HM400-3) and a WA380-7 wheel loader. Tier 4 Interim standards for machines in the 75- to 174-horsepower range went into effect this year.

With reduced fuel consumption and higher productivity, Komatsu's Tier 4 Interim machines, such as the PC360LC-10 excavator and the HM300-3 articulated haul truck, make a cost-effective combination in most applications.



"We believe we raised the bar, not only in terms of lower emissions, but in performance," said Peter Robson, Director of Product Marketing. "We've made some significant changes to the machines, such as low-speed and variable matching, smart-loader logic and Komatsu traction control. Another key element of productivity is operator comfort, and the Tier 4 Interim machines have enhancements in the operator's environment, including new seats, cabs, controls and monitors. Our feedback after the first year is very positive."

Feedback comes in various forms, including direct customer contact and active tracking through Komatsu's KOMTRAX remote machine-monitoring system.

"We've found that the Tier 4 Interim machines are more efficient than their Tier 3 predecessors," said Ken Calvert, Komatsu's Director of Product Support Systems. "In fact, many customers see benefits, such as higher production with lower fuel consumption, which equate to lower operating costs. As with any new standards, there was some concern about how they would affect performance. Our data show that customers can put those concerns to rest."

Already saving

Alton Hutto, Owner and Vice President of Lad Corporation, saw savings right away. A longtime Komatsu user, Hutto purchased a PC360LC-10 late last year and began using it on a large sewer project that involved digging in rocky soils. Despite the rugged conditions, which required using the excavator in Power mode, he said the fuel savings were apparent.

"There were competitive machines on the project, working in the same conditions,"



Last year, Komatsu introduced new excavators, articulated dump trucks and dozers, including this D65-17, that meet Tier 4 Interim standards. Data show they're more fuel-efficient and productive, with lower emissions than their Tier 3 predecessors.

Hutto pointed out. "Compared to those, our PC360LC-10 used about half the fuel. That's a significant savings, but not completely unexpected. Our experience with Komatsu through the years has shown significant savings compared to competitive brands."

Hutto attended a seminar during one of Komatsu's recent Demo Days at the company's Training and Demonstration Center in Cartersville, Ga. He learned about the technology behind Komatsu's Tier 4 Interim machines and was impressed. Tier 4 Interim emission regulations require equipment manufacturers to reduce NOx by 45 percent and soot by 90 percent.

"After the seminar, I was very confident that Komatsu is well ahead of the competition in terms of Tier 4 and how it reduces emissions," said Hutto, who's researched the Tier 4 Interim standards and how Komatsu and other companies went about meeting the regulations. "After we purchased the excavator, Komatsu sent someone to train our operators in how to maximize the machine's performance and fuel economy. We're very

impressed with their commitment to ensuring our machine's optimal performance."

Komatsu machines do that by using engine components, including the exhaust gas recirculation system, variable geometry turbocharger and Komatsu Diesel Particulate Filter (KDPF), which work together to maximize efficiency. Through regeneration, the KDPF uses heat to burn soot and reduce emissions. Komatsu designed the machines to passively and actively regenerate during operation.

Robson said passive and active regeneration trends are right on track. "The results are very positive. Passive regeneration happens consistently during normal working conditions when operating conditions maintain sufficient exhaust temperatures to oxidize particulate matter. Operators don't even know it's happening. Active regeneration generally occurs in the 60- to 80-hour range, and is what we call a 'house-cleaning event,' where temperatures are raised to oxidize the carbon. In most cases, the operator is unaware of it as well."

Continued . . .

COMPLIMENTARY TIER 4 SERVICES



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. No other construction equipment manufacturer offers a complimentary maintenance program like this.

It's what you've come to expect from the service experts at Komatsu.

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Tier 4 Update: Komatsu programs mean even more benefits

... continued

KOMTRAX plays a crucial role

According to the Tier 4 Interim standards, the diesel particulate filter must be cleaned at 4,500 hours. "Our tracking shows the number of regenerations, including machine requests for manual regeneration and the length of the regeneration itself," said Calvert. "We've also tracked fuel consumption as it relates to regeneration, and the numbers are very positive. We've learned a lot."

Tracking regeneration is done with Komatsu's new KOMTRAX 4.0, designed specifically for Tier 4 Interim machines, which also collects other critical information, such as fuel usage, idle time and machine hours.

"KOMTRAX 4.0 builds upon our previous versions by offering information such as predicting fuel-saving opportunities associated with changes in operating modes," noted Calvert. "For example, it can show operators ways to save fuel by using the Eco mode in their application as opposed to Power mode, if it's appropriate. It alerts them when idle time seems excessive and it would be better to shut the machine down to conserve fuel."

In addition to Komatsu tracking the machines, Calvert said distributors are actively using KOMTRAX to track equipment in their territories. "Our distributors are excellent communicators of the Tier 4 Interim technology when they sell or rent a machine, and are great at identifying situations where customers could operate equipment more efficiently to maximize productivity using less fuel."

CARE part of the equation

To further help Tier 4 Interim users keep owning and operating costs down, Komatsu backs its new machines with Komatsu CARE. The program features complimentary factory-scheduled maintenance for the first three years or 2,000 hours, whichever comes first, with work performed by Komatsu distributor technicians using genuine parts and fluids.

"One of the main goals of Komatsu CARE is to assist in the overall profitability of the end user," pointed out Jake Tiongco, Senior Product Manager, Parts Division. "Lower owning and operating costs will lead to more competitive quotes on jobs for our

Continued . . .



All new Komatsu Tier 4 Interim machines are backed by the Komatsu CARE program that provides three-year/2,000hour complimentary maintenance.



Komatsu tracks Tier 4 Interim machines using its advanced KOMTRAX 4.0. "Our tracking shows the number of regenerations, including machine requests for manual regeneration and the length of the regeneration itself," said Ken Calvert, Komatsu's Director of Product Support Systems. "We've also tracked fuel consumption as it relates to regeneration, and the numbers are very positive."

Tier 4 Update: it can mean improvements to your bottom line

... continued

customers. In addition, proper maintenance of the machine with Komatsu genuine parts and factory-certified, trained technicians will increase the longevity and reliability of the Komatsu machine throughout its life."

Robson said it all adds up to increased profitability. "If owners are getting as good or better production compared to their older machines, with less fuel consumption and lower maintenance costs, their bottom line will be better. With each new tier standard, we've improved our equipment beyond the regulations, and we believe these machines mark our best introduction yet. If owner's are still thinking about whether they should make the investment, we encourage them to demo or rent a machine. We believe they'll see the difference."

New Komatsu machines make magazine's Top 100 list

Komatsu's Hybrid HB215-1 is among several of the company's products listed in Construction Equipment magazine's Top 100 Products of 2011. Also listed were Komatsu's Tier 4 Interim Dash-10 excavators and its new WA1200-6 wheel loader.

The HB215-1 is Komatsu's second-generation Hybrid excavator, which was built upon the success of its predecessor and provides significant fuel savings compared to its conventional counterpart, the PC200LC-8. Four major components of Hybrid — a generator motor, inverter, capacitor and electric swing motor — work in harmony to assist the engine. For example, the swing motor captures energy from the upper structure during swing braking and sends it to the capacitor for storage. It's then available to power the swing motor or the generator motor.



Komatsu's second-generation hybrid excavator, the HB215LC-1, is recognized by Construction Equipment magazine as one of the most innovative products of the year. Also listed were Komatsu's Tier 4 Interim Dash-10 excavators and its new WA1200-6 wheel loader.

Both the Hybrid HB215-1 and the Tier 4 Interim excavators (PC240LC-10, PC360LC-10, PC490LC-10) feature low-speed matching that optimizes engine and hydraulic performance. Higher-displacement pumps deliver a higher flow amount at lower engine speeds. The machine can adjust the engine speed based on the flow output for better efficiency.

Tier 4 Interim excavators reduce emissions while, in most cases, providing better fuel economy and higher horsepower than the models they replaced. All major components, such as the engines, hydraulic pumps, motors and valves, are exclusively Komatsu. An integrated design with a closed-center, load-sensing hydraulic system makes the machines more efficient.

Designed for mining applications, the WA1200-6 wheel loader has an increase of 132 horsepower compared to its predecessor. It has an engine rpm-control system with auto deceleration and a dual-mode hydraulic system that can be set for normal or powerful loading.

LOADERS

From Komatsu - The Loader Experts



WA320PZ-6 feature Komatsu's electronically controlled Hydrostatic Transmission (HST) with Komatsu's PZ (Parallel Z-bar) linkage.

- HST delivers high power, excellent response and low fuel consumption.
- The PZ linkage provides parallel lift, high breakout force and high lift capacity.
- Variable Traction Control with S-Mode reduces tire slippage.
- Dynamic braking eases operation and extends wet-disc brake life.





COMPACT EXCAVATORS From Komatsu - The Compact Experts

The Komatsu PC88MR-8 takes the power and quality reputation of its larger siblings into tight places. The advanced Pilot Proportional Control (PPC) joysticks provide smooth, precise controls and five working modes enable you to take command of every project.

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- Boom offset allows digging parallel to foundations or fences
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- KOMTRAX wireless equipment-monitoring system with no monthly fees





NEXT-GENERATION TRUCK

Komatsu's new HM400-3 meets all Tier 4 Interim requirements, plus provides increased capacity

You care about the reduction in emissions that Tier 4 Interim regulations mandated, but chances are you're more concerned that new machines will move the same amount of material as efficiently as your current equipment. Komatsu's new HM400-3 articulated haul truck does that and more. The new Tier 4 Interim truck actually outproduces the previous Tier 3 model.

The HM400-3 has an increased body capacity that yields a 44.1-ton payload compared to the 40 tons of its predecessor. Built of high-strength, wear-resistant steel, the body features a low loading height of 10 feet, five inches, which allows easy loading by Komatsu wheel loaders and excavators.

"A good combination is matching the HM400-3 with a 40- to 60-ton hydraulic excavator or a 5.5-cubic-yard to 7.5-cubic-yard wheel loader," said Product Manager Rob Warden. "That's an efficient, cost-effective way to move massive amounts of dirt on a variety of jobsites. Depending on conditions, operators can select from two working modes: Economy for lighter work on flat ground or Power for higher-production jobs and uphill-hauling applications."

A new Komatsu Traction Control System (KTCS) allows for maximum performance in soft ground, allowing operators to continue working in wet, sloppy conditions. If the truck detects a rapid slowdown in movement, it checks to see that the front and middle axle shafts are rotating at the same speed. If not, it automatically engages the inter-axle differential lock. If wheel slippage is then detected, the HM400-3's KTCS system will automatically brake the slipping wheel.

"Job conditions determine fuel consumption, but with improvements in the transmission and advanced electronic engine control, we're seeing as much as 14-percent better fuel economy compared to the previous model," said Warden. "Eco Guidance through the monitor panel gives the operator information on ways to improve fuel economy. In addition, there are improvements to make the operator more productive, such as a center-located seat that provides a wider view, and a larger seat with air suspension that dampens vibration. The cab design offers less vibration and noise, too."



Like other Tier 4 Interim machines, Komatsu backs the HM400-3 with Komatsu CARE. The program provides complimentary scheduled maintenance for three years or 2,000 hours by factory-certified technicians using genuine Komatsu parts and fluids.

"It's a value-added service that ensures proper maintenance, done right and on time," explained Warden. "That lowers owning and operating costs, maintains uptime and reliability and improves resale value."

Brief Specs on the Komatsu HM400-3 Artic Truck

| Drief Specs off the Romatsu 111/1400-3 Aftic fruck | | | |
|--|-----------------------|-----------------------------|-----------|
| Model | Net Horsepower | Gross Vehicle Weight | Payload |
| HM400-3 | 469 hp | 162,569 lbs. | 44.1 tons |



Rob Warden, Product Manager

Komatsu's new
HM400-3 features
increased payload,
horsepower and
gross vehicle
weight compared
to its predecessor,
while reducing fuel
consumption by as
much as 14 percent,
depending on job
conditions.





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A WELL-ROUNDED LEADER

Rod Schrader steps into CEO/Vice Chairman role for Komatsu America

QUESTION: What are your responsibilities as CEO/ Vice Chairman of Komatsu America?

ANSWER: There are several elements that make up Komatsu America, including our construction and utility division, mining division, parts division and forestry and forklift divisions. My responsibilities include all functions that fit across those groups, as well as the nuts and bolts of our financial results. One key role I see is as a collaborator who's making sure our organization is working together for the common cause of serving our customers. Throughout the company, no matter what role they play, the thought I want at the top of everyone's mind every day is, "What are we doing today to serve our customers?"

QUESTION: You've held several leadership positions with Komatsu. How has that prepared you for your current role as CEO?

ANSWER: Very well. Each position has its own uniqueness, so having served in construction, mining and utility gives me a well-rounded background in all aspects of the company. Those perspectives are a good foundation from which to work. One common aspect of the various positions I've held includes talking with and listening to customers. I have a very good understanding of where they're coming from, what challenges they face and what will help them be more productive and profitable. We take that knowledge and use it to build better machinery that's more reliable and efficient.

QUESTION: What do you believe are Komatsu's strengths?

ANSWER: One major strength is our distributor network, which provides our customers with equipment, parts and service



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.

Walk into Rod Schrader's office and one of the first things you'll notice is a plaque that reads, "Good News is No News, Bad News is Good News, No News is Bad News." Schrader, Komatsu America's new CEO/Vice Chairman, says the phrase is very relevant to the company's success.

"What it boils down to is listening to the customer," said Schrader, who moved into his new position April 1. "The second two lines are the most profound for me. Bad news is good, because if we know the bad, we can find the root causes and put actions into place to fix it. I encourage our employees and customers to present us with the bad news. The third line, 'No News is Bad News,' suggests we're not hearing the voice of the customer. We're either not out there listening to or communicating with them. Going to customers' workplaces to listen and see the facts, enables us to provide solutions to improve our customers' operations."

Schrader has spent a good deal of time listening to customers during his 25 years with Komatsu, the past seven as Executive Vice President/ General Manager of Komatsu America's Mining Division. He's also been a product manager, Director of Marketing, Vice President of Product Marketing and President of Komatsu Utility Corporation. He's been a member of the Komatsu America Corporate Board since July 2010.

"I've seen all sides, so to speak," said Schrader, an Illinois native. "What's common throughout is that Komatsu cares about the customer, whether it's a guy with a mini excavator digging utility lines or a large mining company with a fleet of our largest trucks. My goal is for Komatsu to be known as the best in the equipment industry when it comes to serving the customer."

Schrader and his wife, Kim, have three children (twins Hannah and Logan who are freshmen in college and Connor, who's still in high school). He enjoys golf, yard work and jogging.

Komatsu — innovative and always striving to improve

.. continued

support from trained personnel. We believe we have the best in the business, and my goal is to continue to provide them with the support they need to grow their business, train their people and offer the tools they need to be most effective at serving customers in their markets.

Another is being an innovative leader in equipment and product support. For example, we were the first to manufacture a hybrid machine, now in its second generation,



At Komatsu, customer input is one important aspect of improving products, as well as parts and service capabilities, according to CEO/Vice Chairman Rod Schrader. He encourages customers to visit Komatsu manufacturing plants and provide feedback.

Komatsu CEO/Vice Chairman Rod Schrader says products and service, such as Tier 4 Interim excavators and trucks with KOMTRAX 4.0 and Komatsu CARE, are why Komatsu is an innovative leader in productive, reliable and efficient equipment.



before any other manufacturer commercially introduced its first. Our Tier 4 Interim machines have been very well-received because we not only met the standards, but did so with more productive and efficient machines. Along with that, we're the first to offer complimentary service with our Komatsu CARE program on those Tier 4 Interim machines. We were the first manufacturer to offer free machine monitoring with our KOMTRAX system. Items such as those add value that can lead to better per-yard costs, less fuel usage and more profit.

Finally, we're always striving to improve. For the past several years, we've collected a large volume of data through KOMTRAX. For the most part, we've been reactive in using it. Now, we're more proactive by taking that information and using it two ways: to help our customers identify ways to better utilize their machinery, save fuel and plan for scheduled maintenance; and for our distributors to better stock their parts inventory and contact customers to schedule services.

QUESTION: What do the markets look like today?

ANSWER: The trends continue to go up and strengthen. Mining remained fairly strong, even during the worst of the recession, and we believe that's going to continue for some time. From a construction standpoint, we saw an increase in year-over-year sales during our previous fiscal year, which indicates a recovery. We're optimistic that this year will be even better. ■



Helping customers understand how to better utilize their machinery is one aspect of Komatsu's support. CEO/ Vice Chairman Rod Schrader says data collected through KOMTRAX offers ways to decrease fuel usage and idle time as well as use equipment in the most efficient mode for the task at hand.

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TIER 4 HITS NEW CATEGORY

Machines from 75 to 174 horsepower must now meet new interim emissions standards

This year marks the final group of equipment that must meet Tier 4 Interim standards. Ushered into the picture in 2012 are machines from 75 to 174 horsepower, a range of engine sizes that fits a large portion of the equipment industry.

Tier 4 Interim standards require manufacturers to cut soot emissions by 90 percent compared to Tier 3 models. In addition, they must reduce Nox emissions by 45 percent.

When Tier 4 Final standards begin implementation in 2014, Nox will have to be reduced by an additional 45 percent. When all is said and done, it's expected that emissions will be cut by 99 percent compared to when the first tier of standards went into effect nearly 20 years earlier.

"These reductions in Nox and particulate matter emissions from off-road diesel engines

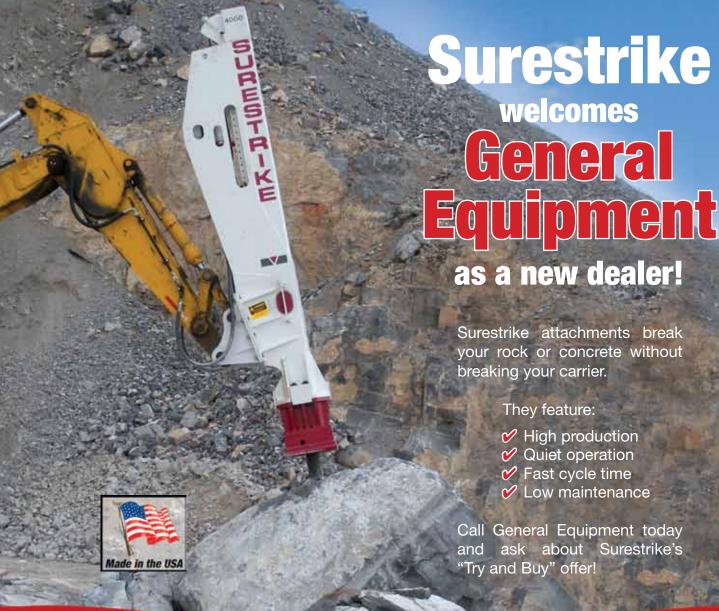
will provide enormous public health benefit," according to a statement by the Environmental Protection Agency. "(EPA) estimates that by 2030, controlling these emissions would annually prevent 12,000 premature deaths, 8,900 hospitalizations and one million work days lost."

In addition, diesel machinery will be required to use cleaner grades of oil and fuel, and users will have to maintain emission filters. A big part of the overall engine picture is the use of diesel particulate filters, which currently have to be changed at 4,500 hours.

Tier 4 Interim standards have already been in effect for other horsepower ranges, starting with 25- to 74-hp models. Machines in the 175- to 750-horsepower range had to meet the interim criteria last year. ■



This year, small to mid-size machines, such as Komatsu's D51 dozer, come under Tier 4 Interim regulations. Komatsu dozers ranging from D31 to D61, excavators from PC130 to PC228, and wheel loaders from WA150 to WA320 all fall within the 75- to 174-hp range. Tier 4 Final standards go into effect in 2014.





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SIDE TRACKS

On the light side



"Go to school, study hard, get a job and make money, aren't there phone apps to do all that?"



"My lawyer will read the fine print."

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.GeneralDownToEarth.com

- _ _ <u>D</u> _ 1. D L E B A
- 2. D G D E R E __ _ _ <u>G</u> __
- 3. N M E E T C __ _ <u>M</u> __ _ _
- 4. G R E E N I E N __ _ _ _ <u>E</u> _ _ _
- 5. L N P P E I E I __ _ _ P __ _ _ _ _ _ _ _ _

"Did you guys order a pizza?" SCHOONE

Did you know...

- The human eye blinks an average of 4.2 million times a year.
- Only 1% of bacteria cause disease.
- Bluebirds cannot see the color blue.
- Like fingerprints, everyone's tongue print is different.
- A law in North Carolina prohibits plowing a cotton field with an elephant.
- Throughout the world, more Monopoly money is printed in a year than real money.
- The U.S. has more bagpipe bands than Scotland does.
- The Mona Lisa has no eyebrows. It was the fashion in Renaissance Florence to shave them off.
- The most productive day of the workweek is Tuesday.

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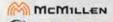














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