

PUSHING AHEAD

A publication for and about Clairemont Equipment customers • www.CECPushingAhead.com

IMPROVED PERFORMANCE

Enhancements give PC360LC-11,
PC390LC-11 increased performance
and lower per-ton costs



KOMATSU®

A MESSAGE FROM THE PRESIDENT



Ronald Zagami

**Komatsu adds
value while
meeting
regulations**

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Dear Valued Customer:

When new emissions regulations were introduced several years ago, Komatsu decided to provide more for its customers than simply machines that lowered emissions. Yes, it met the standards to reduce NO_x and soot, but it went a step further by producing machines that offer greater efficiency, while maintaining or improving production.

Komatsu has already introduced a significant number of new products this year, and we anticipate even more throughout the year. Some are Tier 4 Final and some are *intelligent* Machine Control products. Komatsu built all of them on the solid foundation of the Tier 1 machines it introduced 20 years ago. Several of these new machines are featured in this issue of your Clairemont Pushing Ahead magazine.

Komatsu's value goes far beyond the machines themselves. A decade ago, it introduced its first version of KOMTRAX, the remote machine-monitoring system that allows users to track their equipment. Throughout the years, Komatsu bolstered the information available in an effort to give customers additional vital statistics. For more information on KOMTRAX, read the featured article and see what customers have to say about it.

Komatsu added additional value once again by providing complimentary scheduled maintenance on its Tier 4 and iMC machines through the Komatsu CARE program. For the first three years or 2,000 hours, our technicians perform the services at your convenience, and at the same time, we perform a 50-point inspection at no charge.

You expect maximum uptime. Komatsu CARE, KOMTRAX and what we believe are the best construction, forestry, specialty and mining machines in the industry, help meet your expectations. We'd love to show you Komatsu's value, as well as how the other outstanding manufacturing lines we carry can meet your unique and specific needs.

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

Sincerely,
CLAIREMONT EQUIPMENT COMPANY

Ronald Zagami, President

**Clairemont
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PUSHING AHEAD

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IN THIS ISSUE

TRAINING TALK

Find out how comprehensive training builds a better workforce that's more invested in your business.

GUEST OPINION

Learn how the ROI of partnering with education could be significant for our industry.

INDUSTRY NEWS

Read about the plan one DOT official is proposing in order to get long-term infrastructure funding.

PRODUCT SPOTLIGHT

Study the enhancements Komatsu made to its PC360LC-11 and PC390LC-11 excavators to increase performance and lower per-ton costs.

INNOVATIVE PRODUCT

Komatsu introduced a new *intelligent* Machine Control, Tier 4 Final version of its popular D65 dozer. Read about it inside.

NEW PRODUCT

Take a look at Komatsu's new D85-18 dozer, which features a SIGMADOZER blade that ups production by as much as 15 percent.

PRODUCT IMPROVEMENT

Discover Komatsu's new GD655-6 motor grader that provides superior grading performance with a class-leading wheelbase.

FORESTRY NEWS

Check out Komatsu's XT-3 Series of track feller bunchers and harvesters, built to improve operator comfort, ease of operation, productivity and reliability.

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BEYOND THE BASICS

Comprehensive training builds a better workforce that's more invested in your business

It's rare that employees come fully prepared to do the jobs for which they were hired. Skilled construction workers know how to move dirt, build buildings and put pipe in the ground, but do they know your expectations and how you approach projects? With comprehensive training, they will.

"I've talked with many companies that wonder whether training is worth it, considering that in

Comprehensive training should include several items, such as safety, company policies, compliance and more. Training should be ongoing to keep skills updated.



today's world, most employees only stay with a company for a relatively short amount of time," said Karla Dobbeck with Human Resources Techniques, Inc. "Training is essential. It keeps employees up-to-date, and it tells them that you value their service to the company. In the end, it may motivate them to stay long term. Look at it this way: The only thing worse than training an employee who leaves is not training one who stays."

Dobbeck suggests a comprehensive approach that goes well beyond just training employees to do their jobs. The list should include safety, company policies, compliance and more. Training should be ongoing to keep skills updated.

"New employees should know about the company – where it came from, how it got to where it is today and how they fit into it," said Dobbeck. "They should know its history; changes and expansions; the industries it serves; who its customers are, and if they are mainly new or repeat; how it interacts with the community; and more. This gives the employees perspective, and it may tell them why they were hired and how their skills are valuable to the team.

"The company information should include its corporate culture and policies," Dobbeck added. "Culture encompasses its community involvement and working relationships. Policies cover everything from attendance to housekeeping, telephone use and those unwritten 'hot buttons' that management views as pet peeves but may not be in a handbook. They also need to know basics, such as breaks and lunch periods, as well as more important items, such as how to report grievances, maintenance and quality issues and the overall



Employees should receive job-specific training that helps them understand what their jobs entail and how they relate to others. Include training on where they will be working and where to find necessary tools.

chain of command. This falls under what I call 'performance management.'"

Job-specific, safety measures

Even experienced hires need job-specific training. While their positions may be similar to the ones from where they came, there may be different perspectives on how to approach tasks and projects. Employees must know exactly what their jobs entail and how they relate to others. Added questions to address include: where they will be working and where to find necessary tools; quality information, such as policies and systems; recordkeeping expectations; what to do when customers call or stop by a jobsite; technical terms and phrases that involve how to read and complete paperwork; and terms of equipment usage.

Construction creates special challenges when it comes to safety, and it's essential that employees know all your company's policies. Include information on personal protective equipment, lock out/tag out procedures, hazard communication, emergency evaluation, accident and hazard reporting, and what to do when OSHA is on site. If you use equipment such as cranes, hoist and crane-safety practices must also be explained.

"Processes and procedures related to equipment have to be part of any training program," said Dobbeck. "Part of that is planning for transport, loading and unloading

practices, mobilization and setting up when you get to the jobsite. Consistency is a key component, because it results in fewer errors."

Understanding legal obligations

Employees must also understand their legal obligations. For instance, if they drive trucks, they must be licensed and drug-free. Their status affects more than just them. An accident could affect your company's insurance rates and safety rating.

Additionally, employees are responsible for their behavior on the jobsite and in the office. Harassment and discrimination should never be tolerated, and clear definitions of what those constitute are essential. Employees need to understand their roles in reporting, assisting with investigations and what likely management action will result from incidents.

Dobbeck says that payroll procedures fall under legal obligations, because it's up to everyone to keep count of their time and report errors. Understanding when pay dates occur is essential as well.

Recordkeeping and assessing

Part of an excellent training program is good recordkeeping that makes sure everyone gets the same information, according to Dobbeck.

"Companies should use checklists," she points out. "They ensure consistency and

Information in this article was obtained from a presentation by Karla Dobbeck at the annual Associated Equipment Distributors Summit.

Dobbeck founded Human Resources Techniques, Inc. in 1997 and is a personal human resources advisor.

For more information about Dobbeck or Human Resources Techniques, visit the company's website at www.askhrt.com.

Continued . . .

Training develops a solid workforce, reduces turnover

... continued

provide evidence of employee training. They also provide accountability and identify gaps in training that need to be filled. Additional effective measures include training guides. Weekly evaluations are good ways to maintain focus, and they're proven to help avoid unemployment."

Finally, businesses must constantly assess the effectiveness of their training practices and hold themselves accountable.

"Just as they measure employees, businesses should test themselves to see where they may be lacking when it comes to training, so they can improve," said Dobbeck. "Companies should look beyond just using supervisors

to train new hires. They should consider an assigned trainer or auditor. Those individuals should set clear goals for everyone, using 'carrots' to incentivize positive behaviors and help employees understand how they can 'earn' raises.

"Training is one of the most valuable and effective tools for developing a solid workforce," Dobbeck added. "It must be an essential component of good business practices. A comprehensive program will not only help to ensure employees have the right information and skills to do their jobs, but it's also shown to be effective in reducing costly employee turnover." ■

Avoid costly mistakes by calling before you dig



Call before you dig to identify underground utilities and help you avoid them and potential harm to your employees and others.

Call before you dig. It's a simple, easy and free way to avoid mistakes. There's even an easy-to-remember number: 811. It will help you avoid the mistake that thousands make each year when they hit unmarked utility lines.

The intent of the 811 call line is to provide a single number where those performing excavation, or even demolition, can call and have utility companies locate buried lines. It's a way to avoid hitting one, causing potential injury and/or disruption of services.

The law requires that anyone who wants to begin excavation, including private homeowners, must call at least 48 hours in advance to have the underground utilities marked. Failure to do so can result in everything from a fine to serious injury or death from hitting an unmarked electrical or gas line.

When calling 811, a representative will ask for some basic information, such as what you are planning to do. The rep will want to know the location, length of time you plan to dig and other pertinent information. Once you've made the call, the rep will notify the local utilities. All you have to do is wait at least 48 hours before digging.

Utility companies mark the lines, giving you a reference point so you know how close your excavation will be. Should you accidentally hit a line, stop digging and immediately call authorities. ■

INVESTING IN THE FUTURE

The ROI of partnering with education could be significant for our industry

The U.S. Chamber of Commerce's Institute for a Competitive Workforce states, "The business community is the number one consumer of the public education system and therefore must be an involved and engaged stakeholder in the education of America's children."

It is not unusual to hear employers talk about partnerships with education as having no real return on investment (ROI). I have personally heard the following statements from employers:

- "I attended three career fairs and saw no results."
- "I'm just trying to run a business and do not have the resources to engage with schools."
- "I wish education would just do its job and prepare students to become part of the workforce."

For years, some contractors focused on competing with those in their own industry for workers. Today, with the shifts in population and an aging workforce, contractors must realize that they are competing with a vast array of industries for workers. Technology, service, energy and manufacturing all face serious shortages.

If the purpose of education is to prepare students for the future, be that college or a career, what role does industry play in making that a reality? Why should contractors focus on career and technical education? The answer is because failing to do so will place our industry in jeopardy. A construction project's success depends on our ability to provide a quality product, on time and within budget. These three factors are largely dependent on our ability to gain new workers and on the skills of the craft professional.

Great craft professionals are not born in a classroom listening to a lecture; they are

cultivated, motivated and mentored. They are inspired by interacting with professionals within the industry. We ignite a passion by participating in hands-on experiences in which a future craft professional uses tools, completes a project and begins to understand the relationship between education and a future career.

In the business world, we look for the ROI in the resources we expend, and investing in the future sometimes requires vision that does not immediately translate to the bottom line. An investment of our time, talent and resources to partner with education means that our industry is willing to invest in our own future. ■

This article is reprinted with permission from "Breaking Ground: The NCCER Blog" at blog.nccer.org. Katrina Kersch is Senior Director and Chief Operations Officer of the National Center for Construction Education and Research (NCCER) and oversees product development, program services, credentialing and compliance services.

NCCER Senior Director and Chief Operations Officer Katrina Kersch says contractors need to focus on career and technical education. "A construction project's success depends on our ability to provide a quality product, on time and within budget. These three factors are largely dependent on our ability to gain new workers and on the skills of the craft professional," said Kersch.



Katrina Kersch,
Senior Director and
COO, National Center
for Construction
Education and
Research



A ROAD MAP FOR THE LONG HAUL

DOT official says long-term infrastructure funding needed – then lays out plans to get it

U.S. Department of Transportation (DOT) Deputy Secretary Victor Mendez emphasized the need to focus on rebuilding the nation's infrastructure during an address at the Associated Equipment Distributors annual Summit. The speech touched on proposals put forth by the Obama administration to increase funding for areas such as surface transportation.

Mendez outlined the administration's GROW AMERICA Act, which would increase surface-transportation infrastructure funding during the next six years, with an investment of nearly a half-trillion dollars. It would be a significant boost compared to the current highway bill, help create jobs and provide significant economic benefits, according to Mendez.

"Maintaining current levels is not good enough," said Mendez. "We will fall further behind in our infrastructure deficit. The GROW

AMERICA Act provides a strong investment for aging highways and bridges across the nation and ensures that they are safe, reliable and well-maintained."

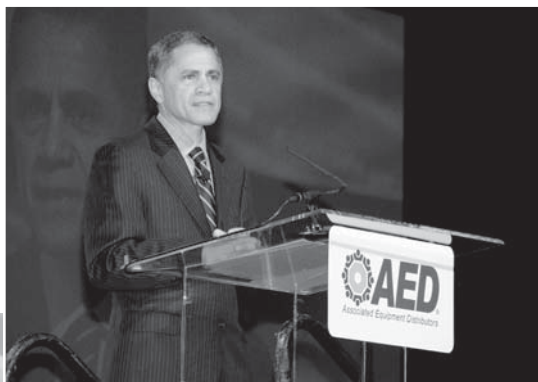
30-year framework

Mendez also spoke about the department's initiative, Beyond Traffic: U.S. DOT's 30-Year Framework for the Future. Beyond Traffic is an invitation to the American public – including users, developers, owners and operators of the transportation network and the policy officials who shape it – to have a frank conversation about the shape, size and condition of that system and how it will meet the needs and goals of our nation for decades to come, according to the DOT's website.

It's a draft framework for the future; it's not prescriptive, the site says. It does not advocate for specific policy solutions. Rather it underscores critical decision points facing the country, by means of data-driven analysis, research, expert opinions and public engagement.

"We must look at all components as part of a larger whole," said Mendez. "We don't want to lose sight of the challenges of today. We haven't invested like we should have. There are a backlog of projects. We have to look ahead too. We need a long-term plan." ■

The United States Department of Transportation Deputy Secretary Victor Mendez (right) said long-term infrastructure funding, including surface transportation through a new highway bill, is critical.





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JASON ANETSBERGER / KOMATSU ENGINEER

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005

IMPROVED PERFORMANCE

Enhancements give PC360LC-11, PC390LC-11 increased performance and lower per-ton costs



Kurt Moncini,
Komatsu Product
Manager,
Excavators

Building on the success of the previous models, Komatsu has designed its new PC360LC-11 and PC390LC-11 excavators to increase production. These Tier 4 Final versions have 257-horsepower, environmentally friendly engines that provide high levels of performance, while reducing operating costs and improving fuel efficiency.

Komatsu enhanced the new excavators' Power mode with improved hydraulic-control logic, resulting in better performance, according to Kurt Moncini, Komatsu Product Manager, Excavators. Power is one of six working modes that allow

operators to match the machine performance to the application.

"The enhanced Power mode combines flow from both pumps and has an improved engine power match to the hydraulics when digging," said Moncini. "That creates better cycle times and digging performance and lowers per-ton costs. During testing, we saw up to 4-percent improved performance, although, it would not surprise us to see even greater performance with experienced operators."

Additional new features include an Operator Identification System, which reports key information for different operators, applications or job locations, and the Auto Idle Shutdown function that helps reduce idle time, as well as operating costs. Both features can be tracked through the latest KOMTRAX technology, which provides essential data, such as fuel and diesel-exhaust fluid levels, operating hours, location, cautions and maintenance alerts.

"Snappy response"

The excavators maintain the horsepower of their predecessors, with a less-than-1-percent increase in operating weight. The PC390LC-11 continues to feature a one-class-size-larger undercarriage with heavy-duty components, which gives it high lift capacity and lateral stability. The larger undercarriage has a 6-percent-wider track gauge and offers up to 18-percent-greater over-the-side lift capacity than the PC360LC-11.

"The PC360LC-11 is a good fit, right in between a utility-size machine and bigger excavators," said Moncini. "It's great for site development, trenching, pipeline and general construction applications. It's easy to transport and provides high performance."

The new PC390LC-11 continues to feature a one-class-size-larger undercarriage with heavy-duty components, which gives it high lift capacity and lateral stability. The larger undercarriage has a 6-percent-wider track gauge and offers up to 18-percent-greater over-the-side lift capacity than the PC360LC-11.





Quick Specs on the PC360LC-11 and PC390LC-11

Model	Net Horsepower	Operating Weight	Bucket Capacity
PC360LC-11	257 hp	78,645-80,547 lbs.	.82-2.56 cu. yds.
PC390LC-11	257 hp	87,388-89,248 lbs.	.89-2.91 cu. yds.

Komatsu's new excavators feature an enhanced Power mode with improved hydraulic-control logic, resulting in better performance.

"When a company needs extra lift capacity, that's where the PC390LC-11 comes in," he added. "Even though we didn't change the horsepower, we're seeing a better response from this model. During testing, users described it as 'snappy' and were extremely pleased with the increased production they were getting."

Large, comfortable cab

Both models feature a large, comfortable cab specifically designed for hydraulic excavators. It is both ROPS and OPG Level 1 certified and gains strength from a reinforced box-structure framework. The cab is mounted on viscous isolation dampers, which provide low vibration levels. A standard, heated, air-suspension high-back seat with fully adjustable armrests provides improved comfort. In addition to a standard AM/FM stereo, an auxiliary input for connecting external devices is provided to play music through the cab's speakers. Additionally, both models feature two 12-volt power ports, and optional joysticks are available with proportional controls for attachment operation.

For global support, the high-resolution, 7-inch LCD color monitor has enhanced

capabilities and displays information in 33 languages. The monitor panel provides information on DEF level, eco guidance, operational records, fuel-consumption history and utilization. A new display interface combines vehicle information with a wide landscape view from the standard rearview camera, so the operator can easily view the working area directly behind the machine.

The new excavators are equipped with the exclusive Komatsu EMMS (Equipment Management Monitoring System). The system has diagnostic features to give operators and technicians greater monitoring and troubleshooting capabilities for preventive maintenance, which minimizes diagnostic and repair time.

"Komatsu covers routine scheduled service complimentary through our Komatsu CARE program for the first three years or 2,000 hours," said Moncini. "The PC360LC and PC390LC have been among our most popular models for many years due to their productivity and efficiency, and these new models build on the foundation of their predecessors." ■



PC360LC-11



PC390LC-11



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001



STRONG CHOICES

Komatsu introduces new *intelligent* Machine Control, Tier 4 Final version of popular D65 dozer

Komatsu continues to lead by example in dozer automation and integration with its new D65PXi-18. Like the other members of the integrated machine-control family, the new dozer offers automatic blade control from rough-cut to finish grade.

The D65PXi-18 is an *intelligent* Machine Control (iMC) dozer with factory-integrated machine-control system components, which eliminate the need for traditional blade-mounted masts and cables. A Global Navigation Satellite System antenna is

mounted on top of the cab. Additional components include robust, stroke-sensing hydraulic cylinders, an enhanced inertial measurement unit and a touch-screen display mounted inside the cab.

A stroke-sensing angle cylinder measures the actual angle of the blade for high-precision grading accuracy on a cross-slope, whether the blade is angled or not. The dozers are significantly more efficient compared to

Continued . . .



Jason Anetsberger,
Komatsu Product
Manager, Intelligent
Machine Control



Chuck Murawski,
Komatsu Product
Manager, Dozers

Quick Specs on the Komatsu D65i-18 and D65-18 Dozers

Model	Net Horsepower	Operating Weight	Blade Capacity
D65EXi-18	217 hp	45,780 lbs.	7.3 cu. yds.*
D65PXi-18	217 hp	50,420 lbs.	5.8 cu. yds.**
D65EX-18	217 hp	45,628 lbs.	7.34 cu. yds.*
D65WX-18	217 hp	48,760 lbs.	7.72 cu. yds.*
D65PX-18	217 hp	51,960 lbs.	5.78 cu. yds.**

* With standard SIGMADOZER blade

** With standard PAT blade



Komatsu's new D65PXi-18 *intelligent* Machine Control dozer features automatic blade control from rough-cut to finish grade. Operators can also adjust the blade-load settings to match actual material conditions for added efficiency.

The new D65s reduce fuel consumption, increase productivity

... continued

conventional aftermarket machine-control systems, depending on operation and conditions.

“The system senses excess blade load during rough-cut and automatically raises the blade to minimize track slip, as needed, and to maintain momentum,” said Jason Anetsberger, Komatsu Product Manager, Intelligent Machine Control. “It also automatically lowers the blade to push as much material as possible until the grade is reached, thereby maximizing production in all situations.”

Selectable dozing modes

Operators can select different dozing modes, which tailor the system response to the machine operation and optimize performance. Operators can also adjust the blade-load settings to match material conditions for added efficiency.

“As with all of our *intelligent* Machine Control dozers, the D65PXi-18 produces results that lower owning and operating costs associated with traditional blade-mounted sensors and makes the next generation of machine operators more productive and efficient,” said Anetsberger.

New Tier 4 Final D65-18 dozers have more powerful engines, and the D65EXi-18, D65EX-18 and D65WX-18 dozers are equipped with a patented Komatsu SIGMADOZER blade that provides large-capacity dozing of 7.3, 7.34 and 7.72 cubic yards, respectively.

▶ VIDEO



New, more powerful engine

The iMC dozers were one of many machines to receive an upgrade. All Komatsu D65PXi-18 dozers, whether iMC or not, feature a stronger, 217-horsepower engine that delivers high performance and low fuel usage and operating costs.

The all-new D65-18 also has an automatic transmission with lockup torque converter, which lowers fuel consumption and raises powertrain efficiency. The lockup mechanics of the torque converter automatically transfer engine power directly to the transmission, reducing fuel consumption by as much as 10 percent. Operators can easily choose from two gearshift modes, Automatic and Manual, to fit the appropriate application: Auto for general dozing and Manual for dozing and ripping in rough ground.

Patented SIGMADOZER blade

The D65-18 SIGMADOZER blade increases soil capture and limits spillage by rolling material to the center of the blade. It also reduces digging resistance, producing smoother material flow; more dozed soil with less power; and up to 15-percent-more productivity, compared to conventional Semi-U blades.

“The D65-18s are great, all-around machines,” said Chuck Murawski, Komatsu Product Manager, Dozers. “They remain among the most popular in their size class because they offer excellent production for large dozing jobs but are small enough for finish grading on most jobsites. They manage to burn less fuel, while being more productive than their predecessors.”

The D65-18 dozers come standard with Komatsu’s new Operator Identification System, which reports key information for multiple operators, and the new Auto Idle Shutdown function that helps reduce idle time and operating costs. The new dozers have the latest version of KOMTRAX, providing data on fuel and DEF levels, operating hours, locations, cautions and other vital information. The machines are also covered by the pioneering Komatsu CARE maintenance and service program. ■

NEW PRODUCT

INCREASED DOZING CAPACITY

New D85-18 features SIGMADOZER blade that ups production by as much as 15 percent

If you use large construction and/or small mining dozers, chances are high that production is your main goal. Komatsu's new Tier 4 Final D85-18 dozers provide that, with the added advantages of greater efficiency and lower fuel consumption, even though operating weight increased by nearly 10 percent, compared to the previous, Dash-15 models.

The D85-18 is now equipped with a 9.4-cubic-yard, high-capacity Komatsu SIGMADOZER blade with power pitch. This improves performance and increases productivity by up to 15 percent, compared to a conventional Semi-U blade. The SIGMADOZER blade's unique frontal design rolls material to the center of the blade and increases soil-holding capacity. Digging resistance is reduced for a smoother flow of material, so larger amounts of soil can be dozed with less power.

"The protruding edge of the SIGMADOZER resembles a spade-nose shovel, whereas the straight cutting edge of a conventional Semi-U blade resembles a flat shovel," explained Chuck Murawski, Komatsu Product Manager, Dozers. "The SIGMADOZER works similar to a spade-nose shovel, because it is easier to push through the soil and requires less energy."

The Dash-18 D85 features a new automatic transmission that reduces fuel consumption by up to 5 percent, compared to previous models, and offers greater power-train efficiency. Two gearshift modes – Automatic and Manual – can be easily selected to fit the application: Automatic for all general dozing and Manual for dozing and ripping rough ground. For added efficiency, operators can choose E mode for all general dozing, leveling and spreading. E mode provides adequate speed and power, while saving up to 10-percent fuel usage.

Large, quiet ROPS cab

The large, quiet cab is more comfortable, allowing operators to concentrate on the work at

hand for increased productivity. It has a high-capacity, air-suspension seat with standard heat, and its mounts reduce shock and vibration, even in adverse conditions. A new, 7-inch, high-resolution color monitor has pull-down menus that enable quick operational adjustments and enhanced service diagnostics capabilities. A new rearview monitoring system can be set to synchronize with reverse operation, and the integrated ROPS cab improves visibility.

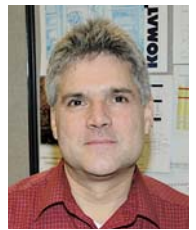
"Of course, as with all Tier 4 models, Komatsu covers the scheduled maintenance for the first three years or 2,000 hours through our Komatsu CARE program," said Murawski. "We believe this is the most efficient and productive dozer in its class size, and we're sure that users will feel the same. It will push mass quantities of material, and we encourage anyone needing a large construction/small mining dozer to try one and see the advantages for themselves." ■

**D85EX-18 with SIGMADOZER blade, D85PX-18 with straight-tilt blade*

Quick Specs on the Komatsu D85-18 dozer

Model	Horsepower	Operating Weight	Blade Capacity*
D85EX-18	264 hp	68,165 lbs.	9.4 cu. yds.
D85PX-18	264 hp	63,800 lbs.	7.7 cu. yds.

Komatsu's new D85-18 dozer features an automatic transmission that provides greater power-train efficiency and lowers fuel consumption. It also has Komatsu's patented SIGMADOZER blade, which will carry up to 15-percent-more material than an equivalent-size Semi-U blade.



Chuck Murawski,
Komatsu Product
Manager, Dozers





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MOTOR GRADER IMPROVED

New Komatsu GD655-6 provides superior grading performance with class-leading wheelbase

Komatsu's new GD655-6 motor grader delivers both excellent production and increased efficiency by combining the strengths of previous models with a new, Tier 4 Final engine. In addition, improvements to the front frame, as well as to the circle and draw bar, increase structural strength and durability.

"The GD655-6 provides superior grading performance, in part because it has the longest wheelbase in its class, at 21 feet 4 inches, and maintains its tight-turning radius of 24 feet 3 inches, so it's extremely maneuverable and productive during tight road work," said Komatsu Product Marketing Manager Joe Sollitt. "At the same time, it's even more efficient than the previous Dash-5 model. In Power mode, users can expect to burn 5-percent-less fuel and 15-percent-less fuel in Economy mode."

Sollitt said the dual-mode transmission is what sets the GD655-6 apart from the competition. It was designed and built specifically for Komatsu graders and incorporates a powershift transmission with eight forward speeds and four reverse speeds. It is coupled with the engine by both a torque converter and a direct-drive lock-up clutch. This design gives operators high travel speeds, low fuel usage, increased tractive effort and fine control at lower speeds. Engine stall prevention is controlled electronically and automatically by disengaging the lock-up clutch when handling heavy loads.

Ten control valves

Direct-acting control valves provide outstanding operator "feel" and predictable system response. The new motor grader has

10 control valves, including two valves with linkage for additional attachments. Standard features include independent blade lift float, a Turbo II precleaner, front-mounted work lights and a lockable toolbox. It also has provisions for ripper and grade-control installations.

"We maintained the large, low-profile cab with excellent visibility, as well as the tilting, center console, and added a new high-resolution monitor with enhanced capabilities and a new rearview camera," said Sollitt. "We believe the GD655-6 sets a new standard for motor graders, and we encourage anyone who uses graders to test it and see the difference." ■

Komatsu's new Tier 4 Final GD655-6 motor grader provides excellent production with increased efficiency. It has 10 control valves, including two valves with linkage for additional attachments.



Joe Sollitt,
Komatsu Product
Marketing
Manager

Quick Specs on the Komatsu GD655-6 Motor Grader

Model	Horsepower	Operating Weight	Blade Length
GD655-6	218 hp	37,346 lbs.	14 ft.





NEW FORESTRY MODELS

Komatsu's XT-3 Series improves operator comfort, ease of operation, productivity and reliability



Steve Yolitz,
Manager,
Marketing Forestry,
for Komatsu
America Corp.

Productivity and reliability are essential in logging. Komatsu's new XT-3 Series track feller bunchers and harvesters improve both, as well as operator comfort and ease of operation. Four models are available, and each provides superior maneuverability, multi-function capability and high production, even in the most demanding forest environments.

New cab features "First in the Forest" technology

Komatsu focused on the operators with a completely redesigned, more spacious cab that has a sloped roofline, which increases headroom above and in front of the seat and reduces debris buildup. The floor-to-ceiling front window is 10-percent larger than in previous models, and larger side windows and skylight window further increase visibility. It's quieter; pressurized with fresh, filtered air for the new automatic heating, cooling and defrosting system; and has an ergonomic seat with easy-to-reach instrumentation.

The XT-3 Series cab features the new "First in the Forest" IQAN-MD4 programmable digital control system, one of the most advanced systems on the market, and highly intuitive Komatsu programming makes it very easy to use. All former analog gauges and warning lights are now prominently displayed on the highly visible and durable 7-inch LED color touchscreen monitor. It accommodates individual preference settings for multiple operators, records harvest data and provides advanced diagnostic reports.

"From the start of the Komatsu XT-3 family project, the primary objective was to improve operator productivity through 'attention to the details' from the operator's perspective," stated Steve Yolitz, Manager, Marketing Forestry, for Komatsu America Corp. "The most visible result of this is the totally new, state-of-the-art forestry cab. Everything from the cab layout to cab-feature content was designed to improve operator comfort, ease of operation and productivity."

Quick Specs on the Komatsu XT-3 Series

Model	Operating Weight	Peak Horsepower	Swing Torque
XT430-3 (non-leveling)	62,240 lbs.	300 hp	58,400 lb.-ft.
XT430L-3	64,460 lbs.	300 hp	58,400 lb.-ft.
XT445L-3	68,180 lbs.	300 hp	58,400 lb.-ft.
XT460L-3	74,320 lbs.	300 hp	58,400 lb.-ft.

Komatsu's new XT-3 Series of track feller bunchers and harvesters provides significant improvements in production and reliability compared to previous models.



Upgrades to the hydraulics and undercarriage deliver greater productivity, reliability and durability. The XT460L-3 has a 37-percent-greater lift capacity at full reach compared to the XT450L-2 model. The undercarriages feature a new chain-guide design, which uses stronger materials for increased service life.

The XT-3 Series can be equipped to meet a wide range of customer applications. Komatsu offers as many as nine hydraulic system arrangements, two heavy-duty booms and four heavy-duty arm options that accept a broad range of cutting attachments, including a disc saw, bar saw and processing head. Advanced, parallel-boom geometry allows fast boom movement and smooth control, which increases operator productivity and reduces fatigue. ■



A DECADE OF KOMTRAX

Komatsu's remote monitoring system evolves into useful tool for lowering O&O costs

The past decade saw huge advancements in machine technology. One prominent area is remote machine monitoring, and Komatsu led the way with its KOMTRAX system, which was designed for users to track equipment performance and plan for maintenance needs. It is also used as a teaching tool to make operators more productive and efficient.

"The initiative behind KOMTRAX was driven by Komatsu's senior management, and many give the company's legendary former CEO Masahiro "Shank" Sakane credit for the vision," said Ken Calvert, Komatsu

Director, KOMTRAX. "KOMTRAX fits with the 'Komatsu Way,' which is our philosophy of core values that feature seven guiding principles. For instance, one is commitment to quality and reliability. Our design and quality engineers all use KOMTRAX to make sure that Komatsu equipment works well and performs as intended. Another principle is to be customer oriented. KOMTRAX helps customers improve their operations through jobsite efficiencies and lower owning and operating costs."

Continued . . .



Ken Calvert,
Komatsu Director,
KOMTRAX



Rizwan Mirza,
Komatsu Manager,
KOMTRAX



KOMTRAX on Tier 4 machines includes information such as diesel particulate filter levels, idle time and other pertinent information to help reduce owning and operating costs.

KOMTRAX improves to benefit customers' bottom lines

... continued

What users are saying about KOMTRAX

"It allows us to locate a piece of equipment from the office and see vital information, such as hours and idle time. It's a valuable tool."

*Jerry Morgan,
President,
Kart Construction*

"We often work in remote locations, so I can't always be on site. KOMTRAX allows me to see a machine's location, hours, idle time and other necessary information. It helps me be a better manager. I wouldn't have a machine without it."

*Steve McNew,
Vice President,
DKM Enterprises*

"It's a great tool that allows me to see fuel usage and if someone is idling excessively. I also like that Komatsu tracks the machines and alerts me to error codes."

*Andy Fornea,
Owner, A.S. Fornea
Construction*

Komatsu first introduced KOMTRAX as an option that buyers could have installed on their Komatsu equipment. The first generation provided three basic pieces of information – machine location, service meter readings and daily hours of operation.

Within a short time, Komatsu made KOMTRAX standard on almost all new machines, and added even more valuable information, such as cautions; error codes; load frequencies; maintenance notifications; average hourly fuel consumption; fuel level and water temperature readings; geofencing; engine lock for theft prevention; and monthly and annual reports.

Several means of accessing info

Calvert said that the technology used to meet emissions regulations led to even further changes. Tier 4 Interim machines allowed users to monitor the diesel particulate filter's performance. With Tier 4 Final, KOMTRAX provided information on diesel exhaust fluid consumption. The latest iteration, KOMTRAX 5.0, allows users to track idle time and other pertinent information related to owning and operating costs, such as travel hours and distance, working modes and cycle times.



Customers can now access information from smart phones and other mobile devices, which was not available in earlier versions. In its latest iteration, KOMTRAX 5.0, users can track idle time and other pertinent information related to owning and operating costs, such as travel hours and distance, working modes and cycle times. The KOMTRAX team continues to look for improvements to benefit its customers' bottom lines.

Users can access information in a variety of ways from a secure website. Office and home computers, tablets and smartphones can all be used to view specific, detailed information.

"Construction has always been a highly mobile field, and the KOMTRAX Mobile app plays right into that," said Rizwan Mirza, Komatsu Manager, KOMTRAX. "Similar to traditional KOMTRAX, users can find information through the app that helps them make decisions to potentially reduce their owning and operating costs, without being tied to an office or a laptop. Many equipment users now carry a mobile device, so we evolved KOMTRAX to the mobile world."

Proven to work

As always, the evolution will continue. Today's KOMTRAX is much more comprehensive than its first version, and Calvert and the KOMTRAX team continually look for improvements that will benefit their customers' bottom lines. The system is on hundreds of thousands of machines worldwide, all of which Komatsu can track for critical information to help companies see trends, plan inventories, contact customers with information, such as error codes, and more.

"KOMTRAX remains popular because it has proven that it works," said Calvert. "The system is robust, accurate and provides valuable information. It drives decisions and business practices, especially after the Great Recession, when everyone started looking more closely at their operations and balance sheets. A system such as KOMTRAX offers greater information on utilization and proper machine deployment, and it helps owners identify training and coaching opportunities for maintenance staff and operators.

"All forward-thinking business leaders realize that leveraging information from systems such as KOMTRAX will be key to remaining competitive, whether it's an equipment manufacturer using KOMTRAX to track machines for maintenance issues or machine owners who know KOMTRAX will help them get their work done on time, on spec and under cost." ■

MORE INDUSTRY NEWS

CBO report shows feds spent \$96 billion on infrastructure

A Congressional Budget Office (CBO) report says the federal government's infrastructure spending was less than a third of what state and local governments put toward road and water system improvements in 2014. States spent \$320 billion, while the federal government's total was \$96 billion.

Of the federal spending, 57 percent went to maintaining existing infrastructure and operating expenses, while 43 percent was put into new construction. The report said

the impact of infrastructure spending was negatively affected by rising construction costs.

"Nominal public spending on infrastructure increased by 44 percent between 2003 and 2014, but because prices of materials and other inputs rose more quickly than nominal spending, real (inflation-adjusted) public purchases decreased, falling by 9 percent from their peak in 2003 to their level in 2014," said the CBO. ■

FAA releases proposed rules for small drones

If you use drones on your construction site, don't fly them at night or out of the operator's site. Those are part of the new rules proposed by the Federal Aviation Administration (FAA) for small commercial unmanned aircraft, which can now map sites and record projects. Final rules are expected in two to three years.

The proposed requirements for commercial operators include passing an FAA-administered test and security checks. Drones could fly up to 100 mph at altitudes of 500 feet or lower. Flights over people, other than those operating the drones, would be prohibited. ■

Gains made in STEM degrees

A report from the National Student Clearinghouse shows an increase in prevalence of students earning STEM (science, technology, engineering, math) bachelor and doctoral degrees between 2004 and 2014. The rise was seen in both men and women during that time.

"This data demonstrates the importance of tracking science and engineering degree attainment at different levels and within specific

fields of study," said Doug Shapiro, Executive Research Director of the Clearinghouse's Research Center. "Both men and women are increasingly choosing STEM degrees, particularly in hard sciences, including computer science, engineering and physical and biological sciences. But in terms of the shares of degrees earned within individual disciplines, women are gaining ground in some STEM areas, while losing ground in others." ■

Group calls for gas tax increase

The American Road & Transportation Builders Association (ARTBA) called for an increase in the federal gas tax of 15 cents per gallon to help pay for infrastructure. It would

raise about \$400 billion, according to the group, and President Pete Ruane said the increase would be more viable than other proposals to fund a transportation shortfall. ■

MEETING, EXCEEDING EXPECTATIONS

General Manager Bruce Nelson says Komatsu's CMO is dedicated to high-quality products delivered quickly



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.

Bruce Nelson,
General Manager, Chattanooga
Manufacturing Operation

Bruce Nelson started with Komatsu in 1993 as a welding engineer at the Chattanooga Manufacturing Operation. Nearly 20 years later, he became General Manager at CMO, where he oversees production of hydraulic excavators and forestry machines. During his tenure, Nelson served as Fabrication Manager, Y2K Project Manager, Operation Manager, SAP Project Manager and nine years as Senior Manager of Administration.

Nelson helped create Komatsu's Supply Chain Division in 2009 and was General Manager of that division until moving into the General Manager role at CMO in 2012, upon the retirement of Dennis Riddell.

A year prior to joining Komatsu, he graduated from Auburn University with a degree in Industrial Engineering and worked for a small manufacturing company. Nelson is a Certified Supply Chain Professional and is Certified in Production and Inventory Management.

Bruce enjoys vacationing in central Florida and taking cruises. He likes to spend time with his wife and two daughters, who enjoy being anywhere it's warm.

QUESTION: What products are produced at the Chattanooga Manufacturing Operation (CMO)?

ANSWER: We currently produce six sizes of hydraulic excavators, ranging from the PC210LC-11 to the PC490LC-11. These models are primarily sold in North America, but we also export one model to Latin America and South America. In addition, we produce three sizes of forestry excavators, from a PC210LL-10 to a PC390LL-10, and four sizes of forestry tracked harvesters and tracked feller bunchers, from the XT430-3 to the XT460-3. We are the only Komatsu plant in the world that builds specialized forestry track machines, and we ship them all over the globe.

QUESTION: Why should a customer buy a machine produced at CMO?

ANSWER: The hydraulic excavators we build at CMO are also built in several other Komatsu factories around the world, in order to better serve local markets. Each factory uses the same parts, designs and quality standards, so users should not be able to tell the difference between an excavator built in a plant in Japan or the United Kingdom versus one built at CMO. In addition to high quality, CMO's mission is quick delivery with whatever options a customer may need. Our staff works regularly with distributors and customers to ensure we meet or exceed their expectations. Being a part of the North American market means we can offer options on our machines that are not normally found in other parts of the world. For example, we offer pipeline spec hydraulic excavators with single grouser tracks and severe-duty revolving-frame undercovers.

QUESTION: How do you prepare for new models, such as the Tier 4 Final products?

ANSWER: We start planning almost a year before our first build date, determining equipment

requirements and laying out a detailed schedule of events. For all model changes, we work closely with the engineering and manufacturing groups to understand the fabrication and assembly differences. We have weekly meetings with all departments involved to understand the status of everyone's activities and ensure we are all on schedule. We invite a staff member from the hydraulic excavator design group to stay at our plant during our first builds, so we have immediate feedback if we have any questions during the assembly process. After completing the first machine, we send it to our Cartersville Demonstration Center for operation and final evaluation. Once everything is complete, the product is released for sale to customers.

QUESTION: What are the markets (construction, utility) like now, and how do you adjust to ensure machines are available?

ANSWER: The construction-equipment market in North America has been growing throughout the last five years. Our plant works closely with Komatsu America's Supply Chain Division to make sure our production plans are in sync with market requirements. We use KOMTRAX to see usage trends by model, which helps us predict and verify marketing forecasts. We have worked hard during the last several years to reduce our lead times to our customers. The time from receiving a distributor order to making the machine ready to ship was two months in 2009. Now, it's three to five days, on average.

QUESTION: Do you encourage customers to visit CMO, and why or why not?

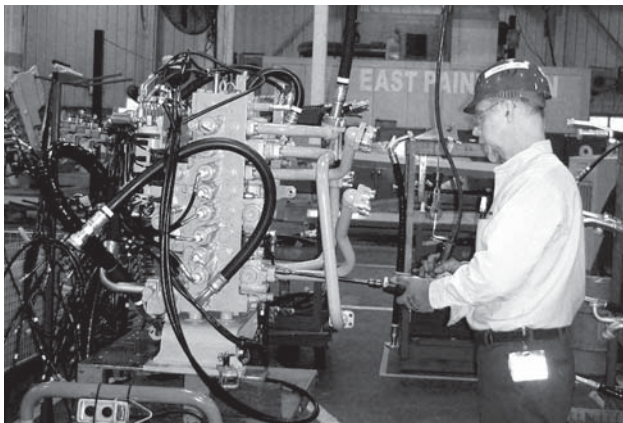
ANSWER: CMO always welcomes customer visits. We have customers at the plant on a weekly basis. A tour can be as small as one contractor with his wife and children passing through the Chattanooga area to as large as 75 people a day as part of Demo Days activities held just down the road at Cartersville. We love to show off our facility and allow people to see how the Komatsu machines, which we consider to be the best, are manufactured. Customers can see for themselves that we strive to keep the plant safe and clean for our workforce. They can also see how we build quality into each step of the process as frames are welded or as machines move down the assembly line. ■



Komatsu's Chattanooga Manufacturing Operation produces six sizes of hydraulic excavators, ranging from the PC210LC-11 to the PC490LC-11.



Four sizes of forestry tracked harvesters and tracked feller bunchers are produced at Komatsu's CMO, among them are new Dash-3 models, including the XT460.



General Manager Bruce Nelson says CMO has worked hard to reduce lead times to customers. In 2009, that was two months. Now, he says it averages three to five days to get a machine ready to ship after receiving a distributor order.

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