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Komatsu HM400-5

Komatsu restarts production of popular articulated haul truck in Tennessee



A Message from the President



Ronald Zagami

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Dear Valued Customer:

This time of year tends to be the busiest in the industry with lots of activity that involves manpower. It is easy to focus on the task at hand, but remember what's most important: your employees. I encourage you to review safety guidelines, from having the proper protection systems for your trenches to providing plenty of water and sunscreen to help your staff beat the heat.

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Komatsu Care also gives you certainty in your owning and operating costs. Learn about Komatsu's new program, Komatsu Care Plus Cost Per Hour, in this issue. We believe it's well worth the investment.

We hope you were able to attend CONEXPO-CON/AGG this past March, but if not, there's a recap of the event inside this issue that provides information about some of the machines that were on display, such as Komatsu's new PC210LCE electric excavator.

Plus, due to the growing demand for off-road trucks in construction, quarry and mining operations throughout North America, Komatsu is once again producing the popular HM400-5 articulated haul truck at its Chattanooga Manufacturing Operation in Tennessee. Check out the article for more information.

As always, if there is anything we can do for you, please feel free to contact us.

Sincerely,
Clairemont Equipment Company



Ronald Zagami,
President



PUSHING AHEAD

www.CECPushingAhead.com

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Prevent trench-related fatalities by following OSHA's rules.



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Turnkey sitework contractor Harco Construction takes on larger jobs, finds big savings with IMC technology

Since its inception in the backyard of Jeffrey Hardin's family home, J.L. Hardin Inc. — widely known as Harco Construction — has expanded and evolved into the turnkey mass excavation and sitework company it is today.

With a personal interest in technological developments, Hardin decided to make investments in his fleet by adding GPS-equipped machines. After meeting with his local Komatsu distributor representative, Hardin quickly saw the value of purchasing Intelligent Machine Control (IMC) equipment.

"We were one of the smallest GPS companies around, and we fell in love with the IMC technology," said Hardin. "After we targeted GPS technology, I feel we got ahead of the game compared to other companies of our size, which allowed us to take on larger projects."

Harco Construction has acquired about 25 Komatsu machines, including a D71PXi-24 IMC dozer.

"When Komatsu came out with the IMC dozers, it blew us away," stated Hardin. "You upload the file to the machine, and the operator can

go to work. There are no wires, poles or masts [to put up and take down], which saves us time and money. None of our operators want to run our dozer with an aftermarket system. They just want to run Komatsu machines."

"Infatuated" with IMC excavators

Strict grade and compaction requirements on jobs mean precision is key. To increase its efficiency when excavating retention ponds and moving large quantities of material, Harco Construction added two Komatsu PC360LCi-11 IMC excavators to its fleet. The machines earned praise on a 400,000-yard cut and shift project where Hardin said he became "infatuated" with the excavators.

"The IMC technology kept our operators from over-digging or undercutting the slope," remarked Hardin. "We were able to let our dozers work on other parts of the job site instead of double-checking the excavator's slope. That's a big time-saver." ■

**The opinions expressed here are from the end users who are quoted.*



Komatsu Intelligent Machine Control (IMC) equipment helps Harco Construction save time and money. "When Komatsu came out with the IMC dozers, it blew us away," stated Jeffrey Hardin, the owner of Harco Construction. "You upload the file to the machine, and the operator can go to work."



CONEXPO-CON/AGG 2023 attendees see the future of construction as manufacturers highlight electric equipment



Watch the video

Electric! That describes both the atmosphere and an abundance of new machines at CONEXPO-CON/AGG 2023, which was held March 14-18 in Las Vegas. With an eye toward sustainability, a host of manufacturers across multiple industries debuted electric and autonomous equipment designed to reduce fuel usage and carbon footprints.

A record crowd of more than 139,000 people attended North America's largest equipment show, which was co-located with the International Fluid Power Exposition (IFPE) at the Las Vegas Convention Center. More than

2,400 exhibitors from 36 countries were spread out across approximately 3 million square feet of exhibit space, which was about 10% larger than the previous show in 2020.

"The innovations in the construction industry unveiled this week will play a role in helping construction professionals drive meaningful and sustainable economic growth," said CONEXPO-CON/AGG Chair Phil Kelliher. "Live events in the construction industry are very important, because you can see, touch and experience the products. That value was reaffirmed this past week across the show floor."

Sustainable focus

Komatsu introduced innovative electric products such as the 20-ton PC210LCE electric excavator that features Proterra's lithium-ion battery technology. It has 451 kilowatt hours (kWh) of battery capacity that offer up to 8 hours of operating time, depending on workload conditions and application.

Suitable for a diverse range of workplaces, including indoors, the Komatsu PC30E electric mini excavator with a 35-kWh battery and a 17.4-kilowatt electric motor was on display. The PC30E is designed to be fast-charged, and it offers quiet and simple operation with zero emissions and no vibrations.

Attendees had the opportunity to see Komatsu's smallest electric excavator — the PC01E electric micro excavator. Developed jointly with Honda, it is powered by portable and swappable mobile batteries. The new machine is designed for confined spaces in landscaping, agriculture and construction.

Komatsu's vision for the swappable battery system is to scale up the technology for use in larger micro excavator models. The PC210LCE, PC30E and PC01E will be available in select markets later this year.

Komatsu also showcased three types of charging infrastructure, as well as its WA electric wheel loader prototype with a chassis based on the WA70. The wheel loader prototype utilizes an "intelligent electrification system" that features an electric traction motor, lift, tilt and steering cylinders, power electronics, a system control computer, a battery, and a battery management system.



Manufacturer representatives were on hand to answer attendees' questions about equipment and technology. "CONEXPO gives us the opportunity to show attendees how Komatsu can be an end-to-end solutions provider with equipment and digital tools that can help increase efficiency and reduce costs," said Komatsu's Brandon Rakers, Senior Product Manager for Technology Business Solutions (pictured above, right).

At CONEXPO-CON/AGG 2023, Komatsu introduced innovative new electric products such as the 20-ton PC210LCE electric excavator that features Proterra's lithium-ion battery technology.

▶ VIDEO





In addition to electric equipment, Komatsu showcased its new PC900LC-11 excavator, which was paired with a Komatsu HM400-5 articulated truck.

In addition to electric equipment, Komatsu highlighted its HB365LC-3 hybrid excavator designed for high production and efficiency with low fuel consumption. Its hybrid system can provide an additional 70 horsepower on demand and allows operators to be up to 15% more productive in Power mode. The hybrid's environmentally friendly operation offers up to 20% more fuel efficiency and 20% less carbon dioxide emissions compared to the standard PC360LC-11.

Also on display was Komatsu's suite of Smart Construction solutions — Dashboard, Design, Drone, Field, Fleet, Office, Remote and Retrofit — designed to optimize the job site, as well as its new Smart Quarry solutions that help increase efficiency, improve production, and maintain a high level of performance, such as Smart Quarry Site and Smart Quarry Study.

Lastly, Komatsu featured its Intelligent Machine Control (IMC) 2.0 dozers and excavators, along with the new PC900LC-11 excavator, and other construction and forestry machines.

"We had a lot of great conversations at the show and really wanted customers to take away that we are committed to working with them to create value together," said Komatsu's Brandon Rakers, Senior Product Manager for Technology Business Solutions. "CONEXPO gives us the opportunity to show attendees how Komatsu



Clairemont Equipment Company Area Sales Manager Misti Taylor (right) offered assistance to customers at CONEXPO-CON/AGG 2023, including (L-R) Ecology Auto Parts' Richard Mandel; Whillock Contracting Inc.'s Mark Whillock; US Materials & Management LLC's Richard Young; and Whillock Contracting Inc.'s Gary Sweetwood, Brent Whillock, Matt McCarthy, Trent Whillock, Austin Whillock, and Tory Whillock.

can be an end-to-end solutions provider with equipment and digital tools that can help increase efficiency and reduce costs."

CONEXPO-CON/AGG is scheduled to return to the Las Vegas Convention Center March 3-7, 2026. ■

Learn more about Komatsu at CONEXPO: https://www.komatsu.com/events/conexpo/?utm_source=Komatsu&utm_medium=PressRelease&utm_campaign=ConExpo2023&utm_content=pc900



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Construction companies should consider cyber insurance that may mitigate risks, use strong cybersecurity practices

Cybercrime is an increasingly prominent threat to many industries, and construction is no exception. With the growing use of digital technologies in what was once a primarily “offline” industry, cyberattacks can pose a significant threat at every level of the construction industry.

The construction industry routinely handles sensitive information that is of value to cybercriminals, including project plans, client information, financial records, and employee data. Furthermore, due to the tight project deadlines and complicated project scheduling common in the construction industry, it can be particularly susceptible to ransomware attacks that disrupt critical digital assets to extort “ransom” from their victims. Struck by a ransomware attack at the wrong time, a contractor, construction manager, or design professional may face the unenviable position of choosing between contractual penalties for delay or paying an anonymous hacker large sums of money to free compromised data or digital systems.

As with the many other business risks faced by the industry, the response of many players in the industry is to obtain insurance. While cyberattacks are usually excluded from standard Commercial General Liability (CGL) policies, many major insurers now offer optional coverage under a Professional Errors and Omissions policy or through standalone cyber insurance. While insurance can afford some degree of protection against attacks, this is an imperfect defense at best. Disruption or damage caused by a cyberattack can be expensive, with data breaches and ransomware attacks often costing even comparatively small victims millions of dollars per attack in direct costs. These amounts can easily exceed policy limits. Downstream costs like loss of intellectual property, reputational damage, and in some cases, legal liability to the owners of compromised information are often nearly or entirely uninsurable.

Proper digital hygiene

Additionally, companies have seen a rise in cyberattacks led by hostile state actors. Often originating from countries hostile to the United States, such as Russia, China, North Korea, and Iran, these attacks are uniquely dangerous

to companies due to their sophistication and because most cyber insurance policies contain exclusions for “hostile or warlike actions.” Although still a developing area of the law, particularly given the ambiguity about whether a cyberattack that does not cause physical damage but nonetheless carries heavy economic costs is a “warlike” action, the exclusion risks a denied policy claim. Further, because cyberattacks by state actors often involve state secrets or national security concerns, insureds often have difficulty developing the facts around the cyberattack, complicating efforts to recover under their policy.

Despite its limitations, construction industry actors may want to consider obtaining or at least looking into cyber insurance or adding it as coverage to one of its existing forms of insurance. While it should not be relied upon as a sole means of protection, it may help mitigate the risk that modern construction companies face. Practicing proper digital hygiene by implementing strong cybersecurity measures like firewalls, multifactor authentication, encryption, and air gapping sensitive data, could be an essential, and unfortunately often neglected, safeguard in today’s digital economy. ■

Editor’s Note: This piece originally appeared on Robinson+Cole’s Construction Law Zone. View it here: <https://www.constructionlawzone.com/2023/02/cyber-insurance-for-the-construction-industry/>.



Joshua L. Coker,
Associate,
Robinson+Cole

About the Author: Joshua L. Coker is a member of Robinson+Cole’s Litigation Section as well as the Construction Law Group and Construction Industry Team. Prior to joining Robinson+Cole, Coker served as a legal extern with the Office of the New York State Attorney General while attending law school. Coker’s previous work included matters involving civil rights, consumer fraud, wrongful death, and pandemic response.

Due to the rise of technology in the construction industry, it’s important to protect your data with strong cybersecurity practices. You should also consider cyber insurance as a means of protection for you and your business, says Robinson+Cole’s Joshua L. Coker.



Construction equipment electrification: a glimpse into the future of the electric job site



Andrew Earing,
Director of
Tracked Products
and Service,
Komatsu

From electric vehicles (EVs) to mining equipment, the shift toward an electric-powered world to reduce carbon emissions — including construction equipment electrification — has already begun.

The Bipartisan Infrastructure Law, which President Joe Biden signed in November of 2021, includes an investment of up to \$7.5 billion for EV charging stations to help build out a national network of 500,000 EV chargers.

Additionally, the Bipartisan Infrastructure Law created a joint office between the Departments of Energy and Transportation to collaborate with local communities and provide technical assistance to support the creation and development of EV charging infrastructure.

Actions are being taken at the state level as well. The California Air Resources Board announced the Advanced Clean Cars II rule in August of 2022 that codified Governor Gavin Newsom's climate goals for the state. The rule established that all new cars and light trucks sold in California must be zero-emission vehicles by 2035.

"While electrification is at the forefront of everyone's mind due to automotive, our equipment on the construction site is often creating that infrastructure for electric automobiles," remarked Andrew Earing, Director of Tracked Products and Service at Komatsu.



An operator places a battery in an electric Komatsu machine. "While electrification is at the forefront of everyone's mind due to automotive, our equipment on the construction site is often creating that infrastructure for electric automobiles," remarked Andrew Earing, Director of Tracked Products and Service at Komatsu.

"There are challenges, and we have solutions to those challenges that we are exploring, but it's not going to be a one-size-fits-all solution for the various applications and the various sizes of the products that we provide."

The electric advantage

Komatsu recently showcased a PC210LCE electric excavator and a fully electric compact wheel loader prototype at Bauma 2022, an international trade fair that was held in Munich, Germany, as well as CONEXPO-CON/AGG 2023 in Las Vegas.

In a press release, Seiichi Fuchita, Chief Technology Officer and President of the Development Division at Komatsu, noted that for Komatsu to reach its target of reducing the CO2 emissions of products in use by 50% by 2030 (from 2010 levels), and "to achieve carbon neutrality by the end of 2050, we are looking for promising technologies from suppliers to accelerate our electric machine development."

"Industries including construction are trending in the direction of carbon neutrality," added Earing. "We want to be a leader. We are a technology leader when it comes to construction and mining equipment. We feel that electrification is one viable option in the construction space."

With the PC210LCE, Komatsu created an electric excavator from a popular size class.

"We wanted to introduce the 20-ton size class, because it opens us up to a lot of different operating applications and environments," explained Earing. "They're going to be used indoors and outdoors. It's a very diverse size class, and we wanted to get a much better understanding of all those applications and how they work with electrification."

In 2023, the PC210LCE will begin to see real work on the job site.

"In North America, we are going to conduct a pilot program where we will work with many of our customers to jointly test not only this machine, but the solutions for our customers' applications to better understand the benefits to them, and how we can help meet their needs," said Earing.

Meanwhile, a Komatsu electric wheel loader prototype, created in collaboration with Moog, is currently undergoing further tests to enhance and showcase the advantages of a fully electric



Komatsu's PC210LCE electric excavator provides immediate advantages over a combustion machine, such as better air quality and reduced noise. "It can operate in areas where it may not have been able to operate before, and for longer durations," said Andrew Earing, Director of Tracked Products and Service at Komatsu.

machine, such as increasing its operating cycle, adding assist functions, and creating a comfortable environment for the operator. The wheel loader also has sensors to add automation capabilities.

Compared to its combustion predecessors, electric machinery provides two immediate advantages: better air quality and noise reduction.

"With a zero-emissions machine, it allows the flexibility for that piece of equipment to operate indoors without harming the air quality around it," said Earing. "It can now operate in areas where it may not have been able to before and for longer durations. When you have a traditional emissions vehicle operating indoors, air quality has to be monitored, and sometimes the machine must be shut down for extended periods of time to let emissions dissipate."

Metropolitan and urban worksites are often accompanied with restrictions for when a contractor can work — in part to reduce noise pollution for the populace.

"That's why urban environments are another application for electric machines," Earing continued. "It's not only due to exhaust emissions, but also because of sound emissions. Going with an electrified machine, which has near zero sound emissions, allows

for an extended operating window for our contractors and customers."

Bridging the gap to construction equipment electrification

While combustion engines will remain crucial to the development of electric infrastructure, there is currently hybrid machinery available to help the transition between 100% combustion and 100% construction equipment electrification.

Komatsu released its first hybrid excavator in 2008, and its most recent model, the HB365LC-3, entered the market in 2017.

"The HB365LC-3 offers increased fuel efficiency without sacrificing power. A topper on the cake is the added benefit of reduced emissions that lowers your carbon footprint and promotes sustainability," said Kurt Moncini, Senior Product Manager at Komatsu. "Based on the Environmental Protection Agency's CO2 formula, the hybrid potentially offers up to a 20% reduction in CO2 emissions compared to the standard PC360LC-11."

The force behind the excavator's fuel savings is its electric swing motor, which offers a glimpse into the capabilities of future electric excavators. The electric swing motor captures and regenerates energy as the upper structure slows down and converts it to electric energy.



**Kurt Moncini,
Senior Product
Manager,
Komatsu**

Continued...

'Swing is fully electric'

... continued

Moncini explained, "It's using energy that would normally be wasted and makes it available to do work, contributing to increased efficiency and decreased diesel usage."

The energy captured during each swing braking cycle is stored in the HB365LC-3's ultracapacitor. Each time the excavator swings, the capacitor discharges electric power to the electric swing motor.

"A traditional battery requires time for the chemical process that releases electricity to occur," stated Moncini. "The heavy work nature of construction equipment places a much faster demand on power transfer. The ultracapacitor's ability to store and discharge energy quickly makes it ideal."

He added, "Since swing is fully electric, all available engine power can go to the boom, arm and bucket when bringing a loaded bucket out of the ground and over a truck, spoil pile or hopper. This creates a faster cycle time and a very quick, responsive swing."

In addition to powering the swing motor, the ultracapacitor sends electric energy to the engine via the motor-generator. This energy is used to accelerate the engine from an ultra-low idle speed of 700 revolutions per minute (rpm) and improve hydraulic response.

It is this technology that can likely be applied to future electric excavator models to extend battery life and increase power.

"Komatsu has the technology to not only capture but also supply energy into an electric swing motor, which gives the HB365LC-3 up to an additional 70 horsepower that it can use for efficiency needs or even use for additional performance needs depending on the customer's application," said Earing.

Steps toward carbon neutrality

Complete construction equipment electrification and hybrids are at the forefront of construction's push toward carbon neutrality, but electrification is just a part of what the industry sees as a solution to meeting carbon goals.

"We're not just exploring electrification — we're also exploring other technologies that are out there such as hydrogen fuel cells and clean fuels," said Earing. "We're looking at all of these options because we're making sure that we have the right solution for the right job site and customer application."

Earing concluded, "In the future, I would say that the trends that we see in carbon neutral machines will depend on the machine application, plus size and weight. With different sizes, there are going to be different technologies that suit those machines." ■

Hybrid equipment, such as the Komatsu HB365LC-3 excavator, bridges the gap between combustion and electric machinery. "The HB365LC-3 offers increased fuel efficiency without sacrificing power. A topper on the cake is the added benefit of reduced emissions that lowers your carbon footprint and promotes sustainability," said Kurt Moncini, Senior Product Manager at Komatsu.



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Takco Construction Inc. improves productivity by incorporating Komatsu HB365LC hybrid excavator into fleet



Steve Lowery,
Vice President

Takco Construction Inc. was founded in 2010 by Byeong “Ben” Im, who named the vertical construction company after his father, Tak, with “co” standing for construction. Headquartered in LaGrange, Ga., Takco pivoted its focus in 2016 when the firm expanded into two divisions: construction and civil. Vice President Steve Lowery noted that the company has grown tremendously over the last few years.

“We’ve transitioned from renting 100% of our equipment to owning 25-plus pieces of machinery in a short amount of time,” Lowery shared. “With that, we’re taking on larger projects and expanding the territory we service.”

Takco’s operations have expanded nationally across 18 states, with its primary territory covering Alabama, Georgia and Florida. The company employs approximately 75 people, and its workload typically consists of mass grading, storm drain, underground utilities, asphalt, and concrete projects.

HB365LC helps double production

Recently, Takco completed work at the Hyundai seating factory in Hope Hull, Ala. The project involved underground utilities, storm structures, mass grading, lime stabilization, cut and fill excavation, topsoil replacement, pond digging, and base prepping for asphalt. Takco needed an additional machine to meet the project’s deadline, so the company rented a Komatsu HB365LC-3 hybrid excavator.

According to Boswell, the HB365LC was used for various site and underground infrastructure tasks on the Hyundai job site. The electric swing motor, a unique feature of the HB365LC, significantly increased productivity by speeding up the truck-loading process for Takco’s operators.

“We found the HB365LC to be a great, all-around machine,” stated Boswell. “It’s very versatile and could handle tasks like loading off-road dump trucks, grading, digging ponds, laying storm sewer, and utility work without struggling. When loading trucks, the hybrid electric swing motor typically doubled our production.”

The term “hybrid” refers to the combination of a traditional diesel engine with advanced electric technology. In the HB365LC excavator, the electric swing motor captures and regenerates energy during swing braking, which is then used to power the swing motor. This innovative process leads to lower total emissions compared to other excavators in its class.

“We noticed a significant drop in our fuel and DEF consumption shortly after adding the HB365LC,” reported Boswell. “With higher fuel prices these days, the excavator saves the company a significant amount of money and lowers our overhead.”

Boswell particularly appreciated the HB365LC’s responsiveness.

“With a typical excavator, you’ll have a delay until you actually start swinging, especially with a

Takco completes work at the Hyundai seating factory in Hope Hull, Ala. The project involves underground utilities, storm structures, mass grading, lime stabilization, cut and fill excavation, topsoil replacement, pond digging, and base prepping for asphalt.





► VIDEO

An operator unloads material with a Komatsu HB365LC-3 hybrid excavator. "We noticed a significant drop in our fuel and DEF consumption shortly after adding the HB365LC," reported Superintendent Justin Boswell. "With higher fuel prices these days, the excavator saves the company a significant amount of money and lowers our overhead."

heaping load," said Boswell. "With the HB365LC, you don't have that delay. As soon as you hit the joystick, you're swinging with a good amount of speed. You can strike, turn, strike, turn, and stay dialed in."

Takco operators have had positive experiences with the HB365LC due to its reliable performance.

Boswell stated, "Our operators have enjoyed it. They like the reactivity of the machine, and it's been running hard without any issues and keeping up with what we put it through."

Advancing into the future

As Takco looks ahead, it is prepared to continue its growth and success in the industry. By embracing innovative equipment like the Komatsu HB365LC hybrid excavator, the company is setting a precedent for efficiency and productivity in its projects.

"We want to continue growing and taking on larger, more challenging projects at a variety of new locations across the United States," said Lowery.

Boswell encourages potential customers to consider the HB365LC for their own operations, given Takco's positive experience with the machine.



An operator swings the Komatsu HB365LC-3 excavator to load a haul truck. "As soon as you hit the joystick, you're swinging with a good amount of speed," said Superintendent Justin Boswell.

"If it's possible, ask your sales representative to let you demo one or rent one to see for yourself how much it can reduce your fuel consumption and impact your productivity," Boswell suggested. "From our standpoint, it's been a great machine." ■

**The opinions expressed here are from the end users who are quoted. The results described herein are those of these end users under certain conditions. Your results may vary.*



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Komatsu's Intelligent Machine Control (IMC) equipment has always been on the cutting edge of technology that automates grading and excavating. To ensure that's the case on all models of IMC equipment, Komatsu has now introduced remanufactured, upgraded machine control monitors and GNSS (global navigation satellite system) receivers.

"Komatsu always looks to upgrade its equipment and components in order to increase our customers' efficiency and production, and we updated these devices to the latest technology as well," said Goran Zeravica, Senior Product Manager, Reman. "There have been slight changes to the hardware, but the biggest upgrades came in software that makes them even more effective than the previous models."

The new devices are replacements for the original monitors in IMC dozers and excavators and their GPS/GNSS receivers. All are now Komatsu Genuine Reman with proprietary technology, including the PH700 IMC excavator monitor (replacing the older X31) that shows

operators where cuts and fills are, as well as other job site features. Users can upgrade their GX-60 to a new GX-55 in IMC dozers. As with the PH700, the GX-55 shows cuts and fills and other job site features.

Previous MC-i3 GNSS receivers have been replaced with new MC-i4 models, which provide GPS/GNSS positioning for the machine, so it knows where it is on the job site and in relation to final plan elevations.

Available through distributors, My Komatsu

"As with cell phones, which you upgrade periodically to have the latest technology, we encourage you to do the same with your IMC devices," said Arash Moghaddamzadeh, Product Manager, Reman Products and Forestry Aftermarket. "These new devices are available through your Komatsu distributor by contacting your product support representative, technology solutions expert, or through the parts department. Additionally, they are available as Reman by using your My Komatsu account." ■



Goran Zeravica,
Senior Product Manager,
Reman,
Komatsu



Komatsu Genuine Reman devices for Intelligent Machine Control (IMC) dozers and excavators feature proprietary technology that helps increase earthmoving efficiency.





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Komatsu Care Plus Cost Per Hour gives you a fixed hourly rate on unlimited services for 60 months

As your machines age, increase certainty in your owning and operating costs with Komatsu's new Komatsu Care Plus Cost Per Hour program that delivers unlimited scheduled maintenance services at a fixed rate for 60 months.

"Komatsu Care Plus Cost Per Hour is a subscription-style billing plan that gives customers a very cash-flow-friendly alternative and lets them extend coverage beyond the complimentary maintenance period," said Komatsu National Accounts Manager Felipe Cueva. "There is a nominal, up-front, opt-in charge. Customers then lock in their cost per hour for that 60-month period and are billed based on the machine's monthly usage. Price protection is built in. The rate doesn't change, which offers a hedge against inflation and rising costs."

The benefits of Komatsu Care Plus Cost Per Hour include:

- Unlimited hours
- Up to 60 months of coverage guaranteed
- Price protection
- Total periodic maintenance (oils, filters, labor, travel and oil sampling)
- Monthly payments based only on machine utilization reported in Komtrax
- National coverage

How it works

"For example, if the rate on their particular machine is \$5 per hour and the customer used the machine for 10 hours, they would be billed \$50," Cueva explained. "If they put 100 hours on the machine, the cost would be \$500 for that month."

The usage is tracked with Komatsu's Komtrax telematics system to ensure accurate billing.

"Added peace of mind comes in knowing that, as with other Komatsu Care programs, the services performed with Komatsu Care Plus Cost Per Hour are done by certified technicians," said Cueva.

He also noted that Komatsu Care Plus Cost Per Hour is restricted to current production models such as Dash-11 excavators. Hourly rates vary depending on machine. Once the initial 60-month period ends, customers may opt in again at the current rate.

"Customers can cancel their subscriptions at any time after 1,000 hours and two completed services without penalties or fees," said Cueva. "We encourage anyone who wants more certainty in their costs to check this out, as well as other options through My Komatsu. Your local Komatsu distributor can help get you covered." ■



Felipe Cueva,
National Accounts
Manager,
Komatsu

Komatsu Care Plus Cost Per Hour locks in a fixed hourly rate for 60 months, and customers are billed on their monthly usage, which is tracked with Komatsu's Komtrax telematics system to ensure accuracy. Services are performed by certified technicians.



Komatsu restarts production of popular HM400-5 articulated haul truck at its Chattanooga Manufacturing Operation



Rod Schrader,
Chairman/CEO,
Komatsu
North America



Bruce Boebel,
Director of Products
and Services for
Wheel Products,
Komatsu

Due to the growing demand for off-road trucks in construction, quarry and mining operations throughout North America, Komatsu is once again producing its HM400-5 articulated haul truck at its Chattanooga Manufacturing Operation (CMO) in Tennessee. The trucks were produced at CMO in the mid-2000s, but production shifted to Japan, where it has remained until now.

"The HM400 is a very popular truck because it's built for reliability and durability," said Bruce Boebel, Director of Products and Services for Wheel Products at Komatsu. "We're excited about reshoring production here in North America. As trucks are completed, they're on a lowboy going to a customer's site immediately."

Komatsu designed the 473-horsepower HM400-5 to move material across challenging terrain while delivering productive, consistent performance for operators of all skill levels. It has a 44.1-ton payload and a low loading height of 10 feet, 5 inches.

"The HM400-5's versatility makes it a great fit for a variety of applications," Boebel noted. "A dump bed for hauling materials is most common with the HM400, but they can be customized for water and lube trucks too."

First off the line

Rogers Group Inc., an aggregate producer and highway construction company based in Nashville, Tenn., purchased the first HM400-5 off the CMO line and is using it in one of its 70-plus quarries, along with many other Komatsu products.

"We have found as we study owning and operating costs of all our fleets that the HM400 gives us the best overall value [on articulated trucks]," said Darin Matson, President and CEO of Rogers Group. "Komatsu is a big supporter of our industry, and that's something we look at in our equipment-buying decisions. Of course, we think it's great that they are building the HM400 right here in our home state."

To support growing demand in North America, Komatsu is once again producing HM400-5 articulated haul trucks at its Chattanooga Manufacturing Operation in Tennessee. The factory also produces excavators and forestry products.





Quick Specs

Model	Gross Horsepower	Gross Vehicle Weight	Payload
HM400-5	473 hp	165,644 lbs.	44.1 tons

▶ VIDEO

Komatsu's 473-horsepower HM400-5 articulated haul truck delivers performance for operators of all skill levels.

Optimum traction in soft ground

The HM400-5 features the Komatsu Traction Control System (KTCS) that is designed to provide excellent traction in soft and slippery ground conditions without sacrificing steering performance. If conditions worsen and the truck detects tire slippage, the inter-axle-lock kicks in. If tire slippage continues, it will automatically apply an independent brake to the wheel on which the slip was detected to help regain traction.

Boebel added, "The hydro-pneumatic seat suspensions help cushion the ride for operator comfort and reduced fatigue."

An integrated payload meter is standard and displays loaded-material weight on the in-cab monitor. External lamps illuminate green, yellow or red as the payload increases

to help prevent under- and over-loaded haul cycles.

Komatsu made service convenient with a lightweight resin hood and a cab that tilts rearward for easy access to the engine and transmission. Production data and other information is stored on board the HM400-5 and is accessible by plugging a laptop into a port or remotely via Komtrax. Users can monitor daily, weekly or monthly detailed data to allow for full production studies.

"We have seen the demand for our HM400-5 trucks grow significantly in both the U.S. and Canada, which is why we began producing the trucks here in the U.S.," said Rod Schrader, Chairman and CEO, Komatsu North America. "The domestic production of this popular truck supports Komatsu's commitment to jobs and manufacturing in the U.S." ■

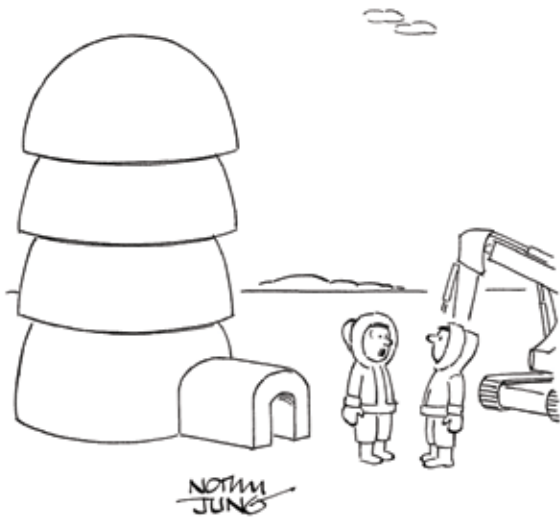


Darin Matson,
President/CEO,
Rogers Group Inc.



Watch the video

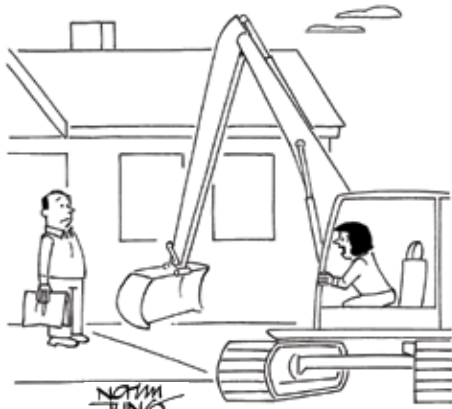
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"IT'S AN OFFICE COMPLEX."



"CAN'T WE BUILD THEM FASTER WITH A 3D PRINTER?"



"ALBERT, I'VE DECIDED TO REMODEL THE HOUSE."

Did you know?

- The first day of spring is known as the vernal equinox.
- Tulips generally symbolize love, but the various colors hold different meanings. Red tulips are seen as romantic, white tulips are great for apologies, and yellow tulips convey cheer and happiness.
- At the 95th Academy Awards, Michelle Yeoh became the first Asian woman to win an Oscar for best actress in a leading role.
- Since 2007, the lumber from the Rockefeller Center Christmas Tree has been donated to Habitat for Humanity.
- There is enough salt in the ocean to cover the whole surface of the Earth. The salt would form a layer more than 500 feet thick, which is approximately the height of a 40-story building.
- Eminem's song "Rap God" earned the Guinness World Record for the most words in a hit single. Eminem raps 1,560 words in 6 minutes and 4 seconds, averaging 4.28 words per second.
- Parrot toes are zygodactyl, so two toes point forward and two toes point backward. This maximizes grip and makes parrots excellent climbers.

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.CECPushingAhead.com

1. MAR _____
2. PROS _____
3. ERLDIS _____
4. DRYBHI _____
5. REGA _____



See the answers

OSHA reports large rise in trench-related fatalities, announces enhanced enforcement and oversight

The Occupational Safety and Health Administration (OSHA) reported that nearly 40 deaths occurred in trenching and excavation work during 2022, making it one of the deadliest years on record. The total more than doubled the 15 fatalities reported in 2021.

OSHA reported 22 deaths in the first half of 2022, prompting it to launch enforcement initiatives to protect workers from known industry hazards. Compliance officers from OSHA were sent to perform more than 1,000 trench inspections nationwide.

“The Occupational Safety and Health Administration is calling on all employers engaged in trenching and excavation activities to act immediately to ensure that required protections are fully in place every single time their employees step down into or work near a trench,” said OSHA Assistant Secretary Doug Parker. “In a matter of seconds, workers can be crushed and buried under thousands of pounds of soil and rocks in an unsafe trench. The alarming increase in the number of workers needlessly dying and suffering serious injuries in trenching accidents must be stopped.”

OSHA reminded companies and workers that trenching and excavation operations require protective systems and inspections before workers can enter. Those requirements apply to trenches 5 feet or deeper unless they are made entirely in stable rock. Safe access and egress, including ladders, steps, ramps or other safe means, are required for employees working in trench excavations 4 feet or deeper, and they must be located within 25 feet of all workers.

When designing a protective system, you must consider factors such as soil classification, depth of cut, water content of the soil, changes caused by weather or climate, surcharge loads, and other operations in the vicinity.

Protective systems include:

- **Benching:** Protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels; this method cannot be done in Type C soil
- **Sloping:** Cutting back the trench wall at an angle inclined away from the excavation
- **Shoring:** Installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins
- **Shielding:** Protecting workers by using trench boxes or other types of supports to prevent soil cave-ins

“OSHA stands ready to assist any employer who needs help to comply with our trenching and excavation requirements,” Parker said. “We will conduct outreach programs — including safety summits — in all of our 10 regions to help ensure any employer who wants assistance gets it. The stakes are too important.” ■

OSHA requires protective systems for trenches 5 feet or deeper unless they are made entirely in stable rock. Safe access and egress, including ladders, steps, ramps or other safe means, are required for employees working in trench excavations 4 feet or deeper, and they must be located within 25 feet of all workers.



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