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December 2008
ConstructionEquipment.com

Top 100 Products of 2008

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FEATURES



COVER STORY:

20 Top 100 New Products of 2008

Construction Equipment editors choose the 100 most significant product introductions of the year. In evaluating these products, we look for advances in technology, new product lines, significant improvements to existing products, or a product that increases competition in its field. To locate specific product categories, see the page numbers below or check the Top 100 index on page 56.



20 Heavy Earthmoving

26 Light Earthmoving

28 Trucking & Hauling

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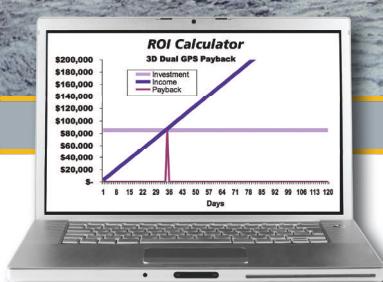
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The Quick and the Read

Supporters of Barack Obama who were on the candidate's e-mail list received invitations to his election-night celebration held in downtown Chicago's Grant Park. Those quick on the response received tickets to the event. Five minutes later, the tickets were gone.

That's how quickly those connected to the Internet can gain advantage over the less-connected. Our mission at *Construction Equipment* has not changed in the Internet age, but our methods have.

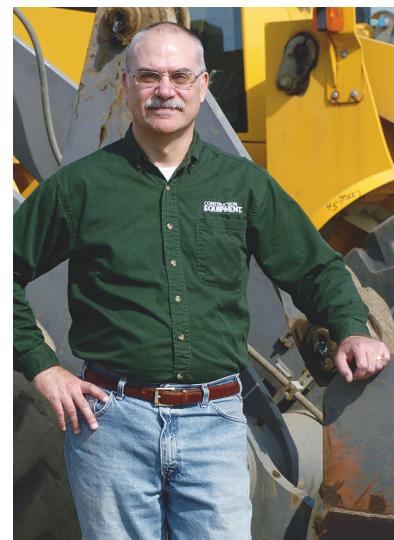
Our subscribers continue to rank their key information need to be new products, and we have responded. At our website, we post new products within two weeks of introduction. Monthly, our eMarketWatch newsletter goes to e-mail subscribers highlighting products from the previous month.

Subscribers also demand the evaluations and management articles that our editors have produced so successfully over our 59-year history. We have added video reports and machine walk-arounds to our stable of equipment coverage. Our video library contains show coverage and exclusive in-field reports on our machine evaluations. These exclusive video reports are posted before the article appears in the magazine. Our latest video report on the Vermeer track systems, which we covered in print last month, was online weeks before the issue hit the mail.

We also put articles on *ConstructionEquipment.com* that may never see the streets. For instance, executive editor Larry Stewart analyzed recent trends in equipment related to warm-mix asphalt in a web-exclusive report. Our Industry Report newsletter informs subscribers about our web exclusives and other articles available online.

Please don't stop reading *Construction Equipment* and rush to the computer, because it's still the best resource available for information on new equipment and machine-management articles. But do consider our website as a complementary resource for equipment information.

For the freshest news on product innovation and the earliest look at equipment and management trends, sign up for our newsletters at *ConstructionEquipment.com*. We're committed to bringing equipment professionals what they need, how and when they need it.



Rod Sutton, Editor in Chief

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Rod

REGISTER NOW for the Construction Equipment Institute, Jan. 6-9, in Austin, Texas, at *ConstructionEquipment.com*.



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monthly eNewsletter at ConstructionEquipment.com/subscribe.asp.

A summary of the month's primary machine introductions and model changes

By KATIE WEILER, Managing Editor

► **Mustang**

Featuring Tier-3-compliant engines, the MTL316, MTL320 and MTL325 track loaders deliver a range of 66 to 92 horsepower and can reach speeds of up to 7.5 mph. Now standard is a new control-handle design that houses additional switches, and a thumb stick that controls the proportional auxiliary hydraulics. Models MTL320 and MTL325 are available with a high-flow option (36 gpm on MTL320, 40 gpm on MTL325).

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9 feet in height. The SmartTrack control system monitors elevating-face pressure.

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► **Vermeer**

A self-propelled compost turner that utilizes patented elevating-face technology, the Vermeer CT1010TX can process between 2,500 and 4,000 cubic yards of compost per hour, depending on the type of material and moisture content. The elevating face lifts and tumbles compost material, reducing degradation and introducing more oxygen into the compost pile. Equipped with either vanes for windrows or a 48-inch-wide conveyor for continuous-stack configurations, it can turn a stack up to 10 feet in width and



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► **Bri-Mar**

Bri-Mar adapted its dump trailer to create the DI-100 and DI-100-6 Dump Inserts that turn a pickup truck into a dump truck. Available for 8- and 6-foot beds, the 64-inch-wide dump inserts use heavy-duty hydraulic scissor lifts powered by a Monarch electric/hydraulic system. Rated lift capacity is 6,000 pounds. The DI-100-6 holds 1.5 cubic yards, and the DI-100 transports up to 2 cubic yards.

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► **Hitachi**

Weighing 28,498 pounds, the ZX120-3 excavator can generate 24,720 pounds of drawbar pull, 12,823 pounds of breakout force, and lift a maximum of 11,443 pounds over the front at a distance of 15 feet (blade on ground). Three power modes, two travel modes, and one work mode are available. The unit comes with either an 8-foot-3-inch or 9-foot-11-inch arm. Track choices include 20-inch rubber crawler pad or 24- or 28-inch triple semi-grouser steel shoes.

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Market Watch

► Vacall

Vacall AllTrench vacuum excavator features a water pump that delivers 35 gpm at 2,000 psi with variable flow that is controlled by the operator. The unit contains a 12-cubic-yard debris tank and a 1,500-gallon aluminum water tank. Boom reaches 26 feet with an extension and has infinitely adjustable boom speed. Front-mounted boom is standard; rear-mounted is optional.

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► Dresssta

The 8.3-liter, Tier-3 Cummins in Dresssta's TD20M Extra crawler dozer delivers 240 net horsepower — an increase of 15 horsepower compared to the H model. An air-grid heater is standard equipment to aid cold-weather starting. The 52,140-pound machine's new cooling module with hydraulically driven fan has



replaceable sections including a charge-air cooler, transmission-oil cooler, radiator, and hydraulic-oil/fan-drive oil cooler. A single left-hand joystick replaces two steering levers and a gear-shift lever used on the H.

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► E-Z Drill

The 240B SRA drill system combines the features of E-Z Drill's 210B SRA slab-riding rock drill with the ability to convert to a pneumatic core drill. The conversion requires a few simple tools and E-Z Drill says it can be done quickly on site. The core drill's three-speed pneumatic motor (400, 900 and 1,600 rpm) requires 77 cfm minimum air flow. The rock drill requires 100 cfm. The unit can core and drill holes from 5/8-inch diameter up to 2½ inches, and it penetrates up to 18 inches.

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► Case

Case expands its CX B series excavator line with the introduction of the CX470B, boasting increased fuel efficiency and an electronically controlled, Tier III-certified 3.2-L Case engine. The CX470B has an operating weight of 103,800 pounds, bucket digging force of 55,528 pounds, and maximum dig depth of 25 feet 4 inches. Flip-open service panels also provide easy access to many of the key components.

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► Elliott Equipment

Elliott 40105 40-ton boom truck has 105 feet of powered main boom and a 115-foot tip height. The unit has a 32-49 foot, two-piece jib with the company's FrictionFree jib extension. Load moment indicator and wide-area definition system are also included. Warranty: 12 months parts and labor; 5 years limited structural.

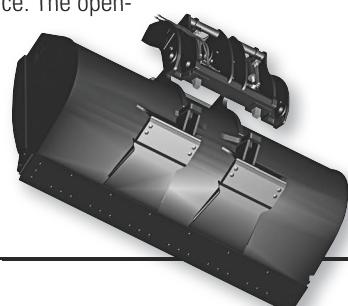
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► Caterpillar

The Cat Fusion coupler moves the load's center of gravity closer to the machine so that the loader performs much like it is using a pin-on bucket, with no change in tipping load. The design uses wedges to pull the attachment tight to the machine in two directions. Wedge locking ensures a snug, rattle-free fit and allows many machines to share work tools with the Fusion interface. The open-frame design gives the operator clear sight lines to the work tool, load and target location. Fusion is available for Caterpillar wheel-loader models ranging from the 924 to the 972, including the IT38 and IT62.

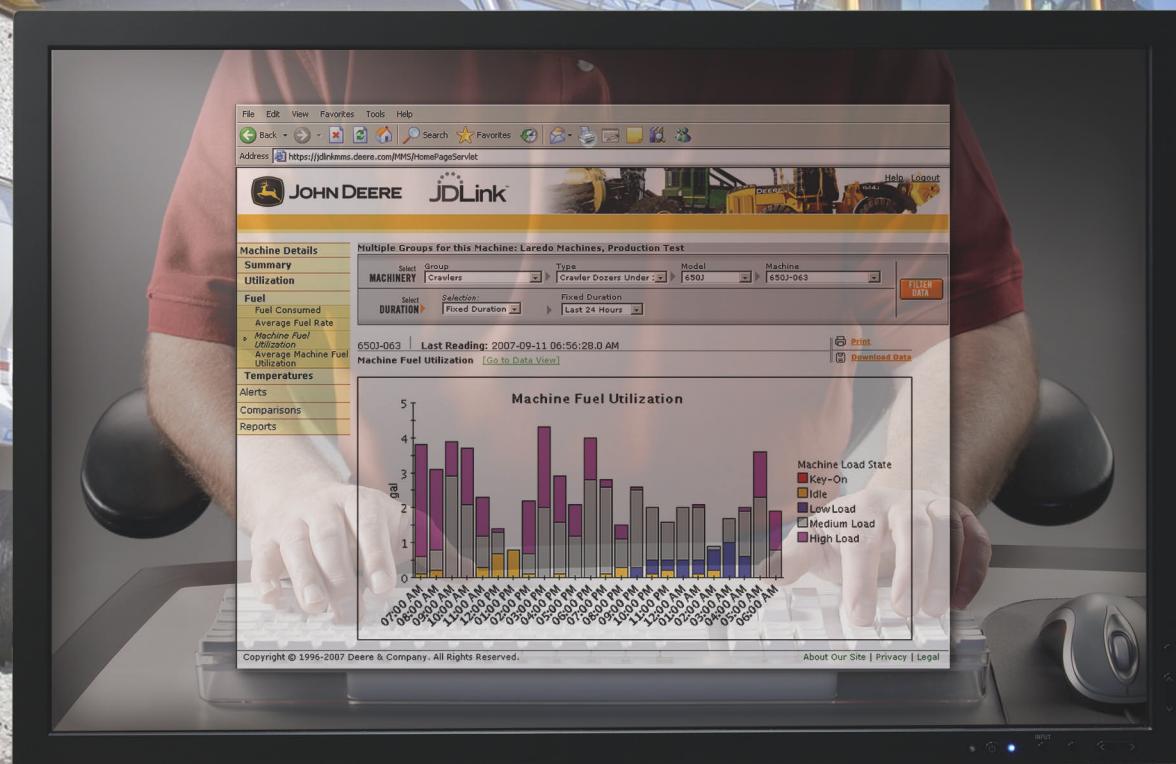
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MANUFACTURER NEWS

Go Blue . . . with JLG

The blue color remains, but the name will change for Gradall telehandlers. By the end of 2008, Gradall-branded telehandlers will become part of an expanded JLG-branded family of machines, parent company JLG announced Oct. 27.

"The Gradall name has been an icon in the telehandler industry for decades, with a reputation built on reliability and performance. We're maintaining all the finest qualities of the Gradall name and product, including the famous blue color, but will begin branding these models under the JLG name," says Kirsten Skyba, VP - Global Marketing. "The same number of models will be available and the equipment will continue to be built, serviced and sold with the high level of quality inherent in all JLG



The familiar blue remains, but Gradall telehandlers will now be branded as part of the JLG product family.

products."

JLG will continue to provide its Ground Support service, parts, training and technical support services for existing Gradall-branded telehandlers.

The rebranding initiative, says JLG, marks the completion of a plan that began in 2006, when JLG Industries sold off the Gradall excavator line.

MANUFACTURER NEWS

Topcon's Valve Switch Unit Simplifies Cat M Series Automation

Automating Caterpillar M series motor graders is now easier thanks to Topcon's new Valve Switch Unit. The VSU eliminates the need to install a hydraulic valve, simplifying the installation process.

"The VSU acts as an interface between the OEM controller and the Topcon controller to run a machine's hydraulic solenoid valves," says Brian Juroff, director of construction sales at Topcon. "It's a simple procedure to mount the new box and plug the cable into the CAT valve connectors."

Other benefits of the VSU include compatibility with all M series graders, no CAT activation fee, ability to control both 2D and 3D machines, and weather resistance, Juroff says.

RUNNING GREEN

CARB to Extend Retrofit Double Credit?

California's Air Resources Board wrote the in-use off-road diesel regulation with an incentive to clean up engines early — order retrofit devices by Nov. 1, 2008, or install them by March 1, 2009, and the retrofit earns double credit toward fleet compliance.

On Oct. 29, CARB sent the following note to its diesel-related e-mail listserv (join at http://www.arb.ca.gov/lispub/listserv_grp.php) to explain a proposed extension of the deadline for double retrofit credit.

"We would like to inform fleets that [CARB] staff plans to propose a regulation change that would extend the double credit deadlines past these dates [Nov. 1 for ordering diesel retrofit devices, and March 1, 2009 for installing them]. However, the specific dates to which these deadlines would be delayed have not yet been determined. Staff is currently developing the proposal and plans to release a public notice and staff report regarding the proposal in late November. The Board will consider the proposal at its Jan. 22 and 23, 2009, meeting. The decision as to whether to adopt the proposal rests with the Board, so fleets that wish to guarantee double credit should meet the deadlines currently in the regulation."

For now, you can still get double credit toward compliance with CARB's in-use off-road diesel regulation for diesel retrofits bought and installed before March 1, 2009.

CLARIFICATION

In October's Class 8 truck feature, Navistar's trucks were not clearly branded as International. We apologize for the confusion. In addition, please note that the International PayStar 5000 series is also available with a 15-liter engine.



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SANY is one of the top 50 global construction machinery manufacturers in the world. SANY America Inc. is a subsidiary of SANY Group China and has acquired 268 acres of land in Peachtree City, Georgia, with plans to invest \$60 million in the development of its North American headquarters, manufacturing facilities, marketing and service center, and research and development center.

JOB TITLE: Chief Executive Officer

FUNCTION:

- To implement the strategic goals and objectives of the organization
- With the chair, enable the Board to fulfill its governance function
- To give direction and leadership toward the achievement of the organization's philosophy, mission, strategy, and its annual goals and objectives

REPORTS TO: Board of Directors

MAJOR FUNCTIONS/ACCOUNTABILITIES:

1. Board Administration and Support – Supports operations and administration of Board by advising and informing Board members, interfacing between Board and staff, and supporting Board's evaluation of chief executive
2. Program, Product and Service Delivery – Oversees design, marketing, promotion, delivery and quality of programs, products and services
3. Financial, Tax, Risk and Facilities Management – Recommends yearly budget for Board approval and prudently manage organization's resources within those budget guidelines according to current laws and regulations
4. Human Resource Management – Effectively manages the human resources of the organization according to authorized personnel policies and procedures that fully conform to current laws and regulations
5. Community and Public Relations – Assures the organization and its mission, programs, products and services are consistently presented in strong, positive image to relevant stakeholders

REQUIREMENTS:

- Bachelor's degree or higher in Mechanical Engineering or related required 15 years in Mechanical Engineering.
- Minimum 5 years in management experience in a large mechanical engineering enterprise and has generated revenue in excess of 500 million.
- Responsible for daily operational management, and assisting President with management of all functional departments, evaluate performance of executives for compliance with established policies and objectives of company.

ANNUAL SALARY: Salary and benefits are very competitive.

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JOB TITLE: Motor Grader Senior Product Manager

BASIC FUNCTIONS:

- Lead and manage Motor Grader Product Development Team.
- Serve as the Project Manager/ Team Leader for coordinating achievement of overall product deliverables and milestones for current and new motor grader product development projects.

RESPONSIBILITIES:

1. As the project manager, recruit new engineers as team members to build design team to achieve design goals
2. As the lead designer, generate super structural scheme of motor grader with incorporating inputs from mechanical, hydraulic, electrical engineers and peer products to meet requirements and preference of customers in North America, gain both quality and cost advantage over peer products; get the scheme approved by director of R&D Department SANY America and proceed with detail design.
3. Make the design/modification package of motor graders deliverable to production line.
4. Assist Sales and Marketing at SANY America and SANY China in evaluating engineering, manufacturing, and marketing information to develop motor grader product plans that are consistent with customer requirements and product line objectives.

JOB TITLE: Chief Engineer

RESPONSIBILITIES:

- The Chief Technology Officer's role is to align technology vision with business strategy by integrating company processes with the appropriate technologies.
- The Chief Technology Officer is also responsible for all aspects to developing and implementing technology initiatives within the organization.
- This individual maintains existing enterprise systems, while providing direction in all technology related issues in support of information operations and core company values.

1. Responsible for establishing and managing the company's R&D and product development

2. Build and manage a top-flight technology team and direct R & D and provide visible leadership for the company within the technology community

REQUIREMENTS:

- Education Background: Bachelor's degree or higher in mechanical, hydraulic, electrical or related degree required
- Experience: Minimum 10 years in mechanic engineering, with executive-level technology management experience.

ANNUAL SALARY: Salary and benefits are very competitive.

Other Job Opportunities Available

Accounting Manager	Mechanical Design Engineer
Crawler Crane Technician	Plant Manager
Electrical Design Engineer	Quality Manager
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Finance Manager	Safety Manager
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Investment Analyst	Senior Mechanical Engineer

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5. Assist SANY America Services, SANY China Engineering and Service Departments in resolving current product issues with motor grader imported to the American market.

JOB REQUIREMENTS:

- Bachelor's Degree in Engineering required with emphasis in mechanical, hydraulic, or electrical disciplines.
- Minimum of 8 years of designing and project management experience. Successful candidate must have five (5) years direct experience in motor grader designing, ideally in mechanical and structural design.
- Demonstrated proficiency in completion of major projects from conception to product release.
- Must possess interpersonal skills to be able to work successfully in a strong cross-functional and multi-cultural team environment.
- Ability to work under minimal supervision.
- Ability to travel to other plants and supplier locations worldwide (especially China) as required to meet the demands of assigned programs.
- Ability to use and understand network diagrams and MS project to develop and manage projects through their life cycle is desired.
- Ability to use designing software (Pro/E, PDM, Winchell, etc).

Compensation for this position is very competitive and the benefits are company paid.

INDUSTRY NEWS

AED Study Matches Highway Spending to Machine Buying

A study by the Associated Equipment Distributors quantifies for the first time the impact of government highway spending on construction-equipment buying and measures the economic impact of the equipment industry. The study, authored by Professor Stephen Fuller of George Mason University, found that 6.4 percent of the average highway contractor's annual budget goes to purchase equipment and dealer services. Fuller estimated that 6.4 cents of every dollar spent on highway construction is spent at equipment dealerships, and that the equipment-market impact of the \$39.1 billion 2007 federal highway program was \$2.5 billion.

Fuller also concluded that every dollar spent on heavy construction equipment generates a total of \$3.19 of economic impact: \$1 in direct spending, and \$2.19 in indirect and induced economic

activity from the re-spending of the direct payment in other sectors of the national economy. The study found that the estimated \$10.2 billion in direct spending for the purchase of heavy equipment for non-building construction projects in 2007 had a \$32.5 billion impact on the economy, generated an estimated \$9.2 billion in personal earnings, and supported more than 265,000 jobs.

"We now have a better idea than ever before about how federal highway spending affects our industry and we can say with a good deal of certainty exactly what's at stake for equipment distributors in next year's highway reauthorization: literally billions of dollars," AED vice president of Government Affairs Christian Klein says. "We also now have data to show our industry's important economic impact."

The study is available online at: www.aednet.org/government/pdf-2008/Fuller-Report.pdf.

MANUFACTURER NEWS

Komatsu Slant-Nose Wins Design Award

Komatsu America's D51 EX/PX-22 crawler dozer won a silver award in the International Design Excellence Awards (IDEA). According to the award citation, the super-slant-nose is a "unique feature (that) allows the operator to see objects that are very close to the blade, dramatically increasing safety and efficiency on the job-site. This new design assures an improvement in fundamental dozer work parameters."

The D51EX-22 and D51PX-22

crawler dozers are 28,000-pound machines rated at 130 horsepower, and there are now two additional models with the slant-nose hood. The IDEA program, formerly known as the Industrial Design Excellence Awards, has been administered since 1980 by the Industrial Designers Society of America, and is sponsored by BusinessWeek magazine.

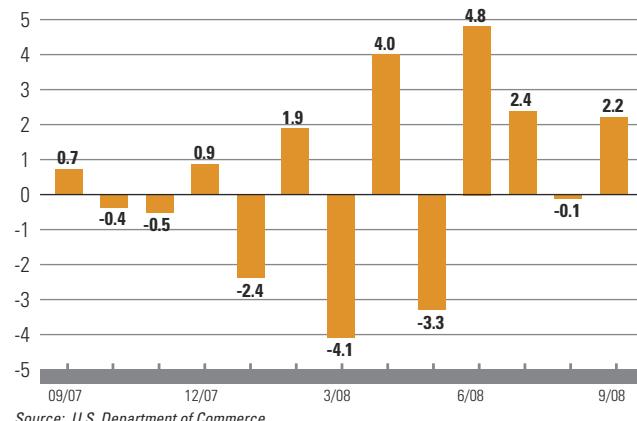
Citation calls the visibility "an improvement in fundamental dozer work parameters."

STATUS & FORECAST

CONSTRUCTION EQUIPMENT SHIPMENTS

Construction-equipment shipments through September remained at the same steady level recorded over the last year with orders and manufacturers backlogs improving during the summer. This reflects the more optimistic market outlook prior to the credit freeze. An exaggerated drop in equipment shipments is now expected in the fourth quarter. Shipments are then expected to stabilize at a pace as much as 10 percent below the 2009 level. Equipment shipments for high-rise buildings and site development will decline most. For more analysis, visit EconomicOutlook.ConstructionEquipment.com.

(% change from previous month)



Source: U.S. Department of Commerce



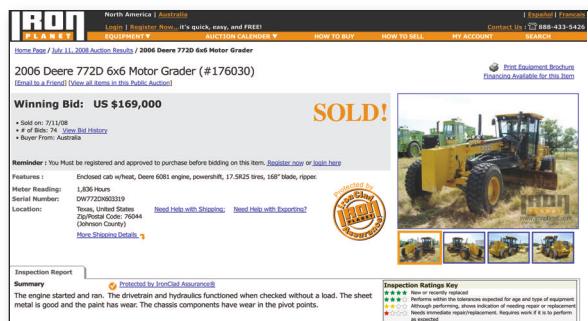
Managers Digest

For more headlines: ConstructionEquipment.com

AUCTION NEWS

List & Clark Sells \$3.9 Million Fleet Via IronPlanet

Family owners of List & Clark Construction of Lenexa, Kan., chose to sell their entire fleet of equipment through an online auction when closing their business. IronPlanet liquidated the fleet for \$3.9 million.



Off-shore buyers shore up prices.

million July 11, garnering \$400,000 more than its initial price target. The auction drew a global audience of more than 10,000 visitors and averaged 29 bids per item.

"We liked that the auction was on the Internet and that we didn't have to move equipment in order to sell it," says Mark Beggs, P.E., president of List & Clark. "The lower mobilization and get-ready costs entered into our evaluations from the start,

but the bottom line for us is that we hit our numbers.

"The guaranteed maximum was a conservative number going in," Beggs adds. "We assumed that — we're contractors, so we understand risk. Overall it was a pretty good experience. We had a few buyers that didn't follow through and pay — less than a whole percent — and we re-auctioned them at another IronPlanet auction. You would probably have the same problem selling them anywhere.

"If we hadn't been briefed on it before, we probably would have been surprised at the significant number of out-of-the-States buyers," Beggs says. "[IronPlanet] said 30 percent would be foreign buyers. It helped prop up the [sale prices]. It's surprising that somebody can buy a 40-ton truck and ship it to Egypt more cost effectively than buying it over there."

— LARRY STEWART

Lifting equipment manufacturer Genie Industries will produce machines locally for the Asian market by mid-2009. Genie, part of Terex Corp.'s Aerial Work Platforms segment, broke ground in September at a new manufacturing facility in Changzhou, China.

"This facility is a large step in executing our long-term manufacturing strategy," says Paul Calderazzo, Terex AWP vice president. "It will provide products in strong demand within the region using many of the best practices that we have developed in our lean manufacturing implementation over the

past decade."

Located a few hours northwest of Shanghai, Genie's new China facility will initially manufacture personnel lifts, but over time will expand to produce a full range of aerial-work-platform products. When the facility is ramped up with multiple product lines, it could employ

up to 400. In addition to Genie products, the park in Changzhou was chosen for its ability to be enlarged as part of a future Terex manufacturing campus.

Genie Industries first established a presence in China 10 years ago with the opening of a branch sales office.

CRANE SAFETY

NCCCO Launches Signalperson Certification

The National Commission for the Certification of Crane Operators seeks to close the loop in safe crane operations with a certification program for signalpersons. The new program meets or exceeds all current and proposed standards and regulations that require qualification of personnel providing hand signals to crane operators. It is designed to ensure that crane operators receive accurate information about where loads need to be placed.

For the first time, signalpersons will be tested on their understanding of basic crane operations and limitations, in addition to their knowledge of hand signals and voice communications. Both written and practical tests are required.

The program follows the intent of the latest revision of the ASME B30.5 Mobile and Locomotive Crane and ASME B30.3 Construction Tower Crane standards, as well as the OSHA Proposed Rule (otherwise known as C-DAC) that will revise Subpart N of the Code of Federal Regulations for cranes.

MANUFACTURER NEWS

Genie to Build Machines in China

Lifting equipment manufacturer Genie Industries will produce machines locally for the Asian market by mid-2009.

Genie, part of Terex Corp.'s Aerial Work Platforms segment, broke ground in September at a new manufacturing facility in Changzhou, China.



SWITCH TO A MORE EFFICIENT SOLUTION

Continuing to lead the way in delivering top productivity and efficiency with environmental responsibility, Caterpillar has introduced a proprietary fuel management system on the 988H Wheel Loader. With this feature, you can save up to 15% on fuel costs and reduce environmental impact. Further advantages include the operators ability to set a fuel savings mode through a switch in the cab. With the 988H fuel management system, you can have significant fuel savings with minimal effect on machine performance.

Contact your Cat® dealer today to find out how you can select your fuel savings with the 988H Fuel Management System.

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Heavy Earthmoving

Top 100 New Products of 2008

Construction Equipment editors select the 100 most exciting product introductions of the year

Our Top 100 Products Award Program was conceived to call special attention to the most significant products introduced each year. We receive hundreds of product releases annually, but we have to choose each month which products have greater interest to the majority of our readers.

In evaluating products for the Top 100 Awards, we look for advances in technology, new product lines, significant improvements to existing products, or a product that increases competition in its field. Also, the highlighted products had to be featured in the magazine between November 2007 and October 2008. Because we narrow down the awards to 100 products, we may not be able to recognize other deserving products in the field.

▼ **Volvo L220F Hybrid Wheel Loader**

Volvo says the L220F Hybrid wheel loader is the first of its kind in the world, and the machine will offer 10 percent fuel savings as well as performance and environmental gains. The heart of the parallel-hybrid system is an Integrated Starter Generator (ISG) fitted between the Volvo D12 engine and transmission. The ISG allows the diesel engine to be turned off when stationary, and then almost instantly re-

started by rapidly spinning the engine up to optimum working speed using a burst of energy from the high power battery. The ISG can also deliver a massive electric torque boost — up to 700 Nm and 50 kW of instant mechanical energy — to overcome the diesel's low torque at low engine speeds.

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▼ Caterpillar 993K Wheel Loader

A new size class for the Caterpillar wheel-loader line, the 993K's 25-ton loader capacity matches with Cat 777 and 785 off-highway trucks. The machine features Z-bar linkage, a 950-horsepower Cat C32 Acert engine, and innovative solutions to ease maintenance. Its new design emphasizes operator safety and comfort, the company says. It has a wider platform allowing for a spacious cab, seat-mounted controls, and electronically controlled lift and bucket tilt detents that can be set from the operator seat. The VIMS machine-health monitoring system, equipped with Advisor display, offers easier navigation and more information than previous systems. Estimated list price: \$2.3 to \$2.5 million.

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▲ John Deere 764 High-Speed Dozer

Billed as the first new machine form in decades, the 764 High-Speed Dozer (HSD) is an articulated, rubber-tracked dozer that combines the speed of a grader with the flotation of a crawler dozer. Deere says the machine can grade and push moderate dozing loads at about double the speed of a similarly sized crawler, and it works on soil conditions that are too soft or wet for graders. Its unique undercarriage system combines positive and friction drive for working in slippery conditions and traveling on highways. The machine weighs 32,000 pounds, travels at 18 mph, and is powered by a 200-horsepower Deere 6.8-liter engine. Estimated list price: \$338,000.

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► Liebherr L 586 2plus2 Wheel Loader

The L 586 2plus2 wheel loader has a tipping load of 45,040 pounds, making it the largest hydrostatically driven wheel loader in the world, Liebherr says. Trading on its 25 years of experience building hydrostatic wheel loaders, the company claims its drive systems reduce fuel consumption by as much as 25 percent, compared to mechanical-drive machines; reduce tire wear by 25 percent; and experience virtually no brake wear. It is powered by a Tier III 340-horsepower (at 1,800 rpm) Liebherr D 936 L engine. Estimated list price: \$400,000 to \$450,000.

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◀ Case 1650L Crawler Dozer

The first in Case's L Series crawler dozer line is model 1650L. Billed as a completely new machine from the ground up, it features a 144-horsepower Tier III Case Family IV engine with electronic fuel injection. A new single-lever control commands the hydrostatic drive, which has electronic straight tracking with counter rotation and selectable settings for shuttle and steering for slow, normal and fast control reaction. A variable-displacement dual path hydrostatic pump motor provides high tractive effort. The undercarriage features an eight roller track frame for precise grading. Estimated list price: \$248,000.

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Heavy Earthmoving



Case 1221E Wheel Loader

Weighing 65,600 pounds, the 1221E wheel loader expands the E Series line and offers a standard payload capacity of 7.6 cubic yards. It is powered by an electronic, six-cylinder Tier 3 Cummins engine that delivers 320 net horsepower. Isolation-mounted cab is among the quietest in the industry, with operator sound level of 72 dB(A). It also offers infinitely adjustable seat, armrests and control placement, as well as tilt/telescoping steering wheel. Floor-to-ceiling glass in the front coupled with a sloped rear engine compartment provides excellent visibility. Optional Ride Control is available. Estimated list price: \$453,000.

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Ashland CS18-HD Towed Scraper

Weighing nearly 25,000 pounds, Ashland says its CS18-HD pull-type scraper is the heaviest-duty offering in the 18-cubic-yard class. It matches tractors with 325 or more horsepower and transfers load to the tractor for improved traction. Lift cylinders are mounted higher to keep out of dirt and rocks. Its four 23.5x25 tires are set back from the bowl, allowing dirt to fall through to the ground without plugging. The 16-inch-diameter, 7/8-inch-thick front pipe is elevated to allow a 22-inch clearance between the front section and the ground. Estimated list price: \$76,215.

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John Deere 9030 Series Scraper Tractors

Deere's 9030 Series scraper tractors provide horsepower ratings from 425 to 530. All three models use Tier III John Deere 13.5L engines, which feature exhaust-gas recirculation, variable-geometry turbocharger, up to 38-percent torque rise, and a "10-percent power bulge to bring more power and performance to the ground." The tractors feature AutoLoad, which automates the loading process and Deere scraper transport and fill heights that can be set from the operator's station. Also, Vari-cool directs air from the engine up away from the haul road for improved dust control. Estimated list price: \$300,000 to \$350,000.

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Caterpillar D7E Dozer

According to Cat, the D7E track-type tractor's innovative electric drive system will deliver 25 percent more material moved per gallon of fuel than the D7RII. The integrated power train is also said to reduce fuel consumption by up to 20 percent (gallons per hour). A 235-horsepower Cat C9 diesel drives a generator to produce electricity that ultimately powers two AC electric drive motors, which are connected to a differential steering system, final drives, and a low-sprocket undercarriage. The electric drive train has 60 percent fewer moving parts compared to previous D7s. The system also provides power to auxiliary components, eliminating engine belts. The D7E is the first electric drive dozer using modern AC technology. Estimated list price: \$550,000 to \$650,000.

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Heavy Earthmoving

► JCB 3CX Backhoe Loader

The JCB 3CX backhoe-loader's refinements include a redesigned canopy, revised gearing to boost travel speeds to 22 mph, new servo brakes, redesigned loader geometry, V-shaped bucket-side panels to facilitate pipe handling, and a damage-resistant "soft nose." It now uses a Tier-3 DieselMax engine, available in either 92- or 100-horsepower versions with increased torque. Backhoe-bucket breakout force is up 18 percent, and dipper breakout force is up 10 percent. Dipper-lift and boom-lift capacities are up 10 percent; loader-bucket breakout force is up 15 percent. Revised auxiliary-hydraulic circuits now allow using single-direction attachments and bi-directional implements. Estimated list price: \$80,000 to \$170,000.

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▲ Kobelco SK350LC Hydraulic Excavator

Replacing model SK330LC, the new SK350LC Acera Mark 8 excavator offers improvements such as increased fuel efficiency, higher lifting capabilities, more drawbar pull and robust design. It comes standard with heavy-duty components including X-frame, boom and arm, which used to be options. Powered by a Tier III, 264-horsepower turbocharged Hino engine, the unit digs to 24 feet 10 inches and reaches 36 feet 3 inches at ground line. New ergonomic cab features a seven-position suspension seat, and all major controls are located on the operator's right side for easy access. Also, routine service points are located at ground level. Estimated list price: \$317,200.

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▼ John Deere K-Series Wheel Loaders

Deere's K-Series wheel loaders ranging from 2 to 8 cubic yards come with several cab improvements, a new utility-sized loader, and Tier III engines in the largest models. They feature "industry firsts" such as the only wheel loaders with a multi-function LCD monitor, keyless-start, standard auto-shutdown, and lock-up torque

converter across a broad range of machines, Deere says. Joystick steering is now available in the 544K through 844K. An embedded payload weighing scale is powered by Loadrite. Estimated list price: \$125,000 to \$500,000.

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► Hyundai R800LC-7A Excavator

The 181,880-pound R800LC-7A is Hyundai's largest excavator; the next largest model weighs 107,580 pounds. The new model is powered by a Tier 3 Cummins QSX engine, generating 460 net horsepower at 1,600 rpm. Hydraulics have been optimized to improve response time, and the system performs faster and saves fuel. Equipped with a mass-excavator 23-foot-7-inch boom and 9-foot-8-inch arm, the R800LC-7A can handle a 5.93-cubic-yard bucket. Unlike many competitors, Hyundai says it includes many features as standard rather than options. Estimated list price: \$997,370.

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The Dominator field service vehicle features improved winch placement that eliminates tension on the cable when the boom is raised or lowered with hook in stowed position. The redesigned workbench offers greater workspace designed for comfort, safety, and maneuverability. And the new hydraulic-driven rotary screw compressor provides reliable power for hand tools, tire inflation, and more.



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Light Earthmoving



▲ Wacker Neuson Compact Wheel Loaders

Wacker Neuson introduced six compact wheel loaders to the U.S. market, four of which are articulated units with a compact design, high breakout forces, and lower fuel consumption. The other two units are all-wheel-steer models, which provide consistent payload, improved stability, and tight turning radius. According to the company, the wheel loaders can perform the same tasks as a higher-powered skid steer loader, but deliver up to 30-percent fuel savings. The articulated units come in 1.8- to 5-metric-ton models, and are able to lift from 1,640 to 6,870 pounds. All-wheel-steer models include 3.2- and 4.5-metric-ton versions with 49 and 66 horsepower, respectively. Estimated list price: \$26,000 to \$64,000.

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▲ Volvo Short-Swing Excavators

Volvo's short-swing excavators were designed with congested worksites in mind. The ECR145CL and ECR235CL have a track length of 12 feet 4 inches and 14 feet 8 inches, respectively; lifting capacity of 7,730 pounds and 16,770 pounds; and maximum digging depth of 18 feet 2 inches and 22 feet 2 inches. The ECR's body is compact enough that its rear swings only fractionally outside its own track width. Estimated list price: \$145,000 for ECR145CL; \$210,000 for ECR235CL.

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► Wacker Neuson Compact Track Excavators

For the first time, Wacker Neuson is bringing a line of compact track excavators to the North American market. According to Wacker, the compact excavators offer extremely long life because of their heavy-duty design. The units range from the 1.4-ton, 24.3-horsepower Model 1404 to the large 8-ton, 69.5-horsepower Model 8003, with digging depths from 7 feet 4 inches to 14 feet 1 inch. And the larger compact excavators, such as the Model 8003, feature a tilting operator's platform, which provides convenient service access. Estimated list price: \$29,000 to \$95,000.

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◀ John Deere 313, 315 Skid Steer Loaders

Like their bigger 300-Series siblings, John Deere's 313 and 315 skid steers are lightweight and agile, yet powerful, according to John Deere. At 5 feet wide, 60/40 weight distribution, and low center of gravity, the 315 can easily maneuver within confined areas. The 315 has a rated capacity of 1,500 pounds, tipping load of 3,000 pounds, and is driven by a 45-horsepower turbocharged, four-cylinder Deere diesel engine, which is Tier-4 certified. A radial boom design extends reach through the work zone and facilitates pickup truck and hopper loading.

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▲ Caterpillar D-Series Mini Hydraulic Excavators

Replacing Caterpillar's C-Series mini hydraulic excavators, the new D-Series maintains the compact frame of its predecessor while gaining performance upgrades. The 8-ton 308D delivers 22 percent higher bucket breakout forces over the C-Series, 10 percent more stick forces, and 15 percent more rim-pull. It's powered by an Interim Tier-4 turbocharged engine at 54 horsepower, and includes load-sensing hydraulics and variable displacement axial piston hydraulic pump. The 17,306-pound excavator has a maximum reach of 22 feet and maximum dig depth of 15 feet 2 inches. Estimated list price: \$100,000 to \$110,000.

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▲ Bobcat Compact Tractors

Bobcat introduced three compact tractors in January 2008; since then, the company now offers nine models from the 20-horsepower CT120 to the 50-horsepower CT450. Standard features include 3-point hitch, rear PTO, power steering, cruise control, four-wheel drive, hydrostatic transmission and suspension seat. The front-end loader can also be equipped with Bob-Tach attachment mounting system. Estimated list price: \$9,900 to \$22,745.

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▲ Yanmar V4-6, V3-6 Compact Wheel Loaders

Yanmar V4-6, V3-6 compact wheel loaders are 40.4 and 30.3 horsepower, respectively. V4-6 weighs 7,651 pounds and has fully automatic drive mode that allows it to change gears without operator input. Top speed is 11.8 mph. Rear-axle oscillation reduces operator fatigue and provides control over uneven surfaces. Lifting capacity is 7,451 pounds. V3-6 weighs 6,750 pounds and has a lifting capacity of 5,760 pounds. Estimated list price: \$40,000 to \$50,000.

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▲ Caterpillar C-Series Compact Track Loaders

The C-Series Compact Track Loaders from Caterpillar feature an innovative fully suspended undercarriage, which employs four independent torsion axles for a better ride and bucket load retention. Designed for use in rough environments, the CTLs sport a steel-embedded track and steel undercarriage components. Even with the steel hardware, the CTLs maintain operator comfort thanks to the all-rubber track system. All three models, 279C, 289C and 299C, have two-speed drive systems with a maximum speed of 8.5 miles per hour, and operating capacities ranging from 3,200 to 4,150 pounds at 50 percent tipping load. Powering the CTLs is the Cat C3.4T turbocharged diesel engine. Estimated list price: \$59,500 to \$69,700.

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Trucking & Hauling



▲ Titan by Mack Vocational Truck

In what is described as the most powerful offering in the 108-year history of Mack Trucks, the Titan by Mack calls on a 16-liter Mack MP10 engine topping out at 605 horsepower and 2,060 ft.-lbs. of torque. Introduced at Conexpo-Con/Agg 2008, the addition to the Mack product line is designed for heavy transport and construction applications, such as logging, mining, oil and gas, and heavy-equipment hauling. With a strong, bold look in the tradition of classic big-block, long-hood, conventional truck models, the Titan by Mack offers a commanding stance with high ground clearance.

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▲ Bri-Mar Deckover Dump Trailer

With the new deckover dump model, trailer manufacturer Bri-Mar has taken a product type it says is historically built in backyard garages and incorporated it into the company's offering of trailers manufactured with top-quality components and acid etch/powder coat finishes. With fold-down sides, the deckover dump trailer can be configured as both a flatbed and dump trailer. Described as "a true multi-tasker," the trailer allows a contractor to take a skid steer out to a jobsite, pick up a pallet of lumber or paving stone along with insulation or mulch on the same trip, and then cart debris to the landfill at the end of the day. Estimated list price: \$5,000 to \$8,000.

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► Terex FDB7000 Front-Discharge Transit Mixer

The largest model in the Terex mixer-truck product line, the FDB7000 front-discharge transit mixer features an enhanced Total Control System for efficient and safe operation at the jobsite. The system allows operators, once on site, to transfer truck forward and reverse travel control to a single electric-over-hydraulic joystick that also controls drum start/stop, material charge/discharge, main chute up/down and left/right, and the optional hydraulic folding chutes. Equipped with an 11-cubic-yard concrete mixer, the FDB7000 has a gross permissible weight of 79,500 pounds. An air-over-hydraulic Hi Lift tag axle system allows air ride suspension in a 34-foot outer bridge application. Estimated list price: \$208,000.

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◀ Fontaine Renegade LXL Lowbed Trailer

Boasting "the lowest standard deck height in the industry" at 14 inches, the LXL Lowbed can carry larger equipment safely to the jobsite, claims manufacturer Fontaine Trailer. This configuration still allows 5 inches of ground clearance. Standard equipment for the LXL Lowbed includes 100-ksi-minimum-yield steel main beam flanges with 50,000-pound webs as well as fifth-wheel guide rollers and aluminum fenders on the gooseneck, 28 bent D-Ring lash rings, flag holders, and a stainless-steel bumper insert. There are seven LED marker lights per side and nine LED lights on the rear.

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► **IMT EDSC10 Service Truck Body**

The newest addition to IMT's Dominator family of mechanics truck bodies, the compact EDSC10 is the lightest model in its class, addressing customer concerns about fuel economy and maneuvering in tight environments. Mounted on a Dodge or Freightliner Sprinter chassis, the EDSC10 fills a niche for customers not requiring a full-sized service truck, offering an 11-foot crane body rated for a 10,000-ft.-lb. crane. A typical mechanics truck gets about 8 mpg, compared to 18 to 20 mpg for the EDSC10 on a Sprinter chassis. Being fully integrated, the EDSC10 does not require the customer to add bumpers, outriggers or crane reinforcements. Estimated list price: \$13,000 (crane body only).

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► **Volvo VHD 430**

With a model designated the VHD 430, Volvo Trucks is making available its VHD vocational truck and tractor with a factory-installed, 42-inch sleeper cab. The VHD 430 is designed for customers who want the established VHD's ability to operate in logging and oil-field conditions with large or heavy loads, but additionally with the sleeper berth required by hours-of-service regulations. Providing 118 cubic inches of space, the truck's sleeper is integrated into the one-piece steel cab and eliminates the need for aftermarket add-on sleeper boxes that, according to Volvo Trucks, could reduce the integrity of the cab. The VHD was previously only available with a day cab. Estimated list price: \$122,258 for 6x4 axle-back configuration; \$121,965 for 6x4 axle-forward configuration.

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► **Philippi-Hagenbuch Rear-Eject/End-Dump Body**

A customer who processes large amounts of steel scrap liked the standard Philippi-Hagenbuch rear-eject truck body for hauling, but also wanted the ability to have a traditional end-dump feature. So Philippi-Hagenbuch came up with what it says is not only the first rigid-frame rear-eject body for off-highway trucks, but also the large-haul industry's first combo body alternative, mounted on a Komatsu HD325-7 chassis. With a 900-cubic-foot capacity, the combo rear-eject/end-dump body features a mechanical Autogate tailgate. A simple design requires no daily maintenance, rollers or lubrication points. Estimated list price: \$150,000+.

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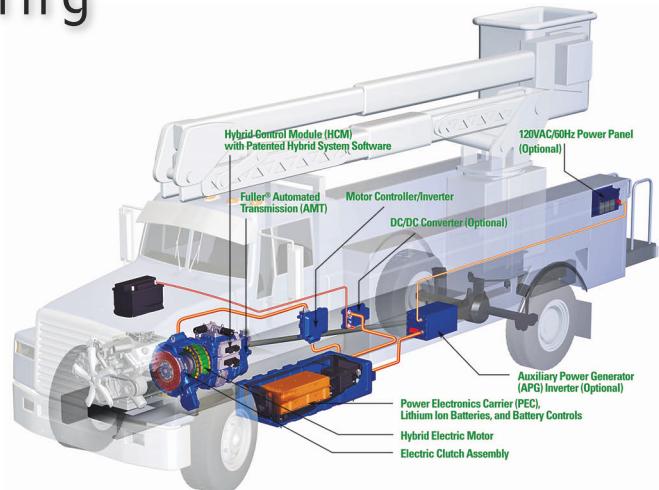
Trucking & Hauling



▲ Western Star 6900 XD Dump Truck

As a lower-cost alternative to traditional articulated and rigid-frame haul trucks used in mining and quarry applications, Western Star has "uprated" an on/off-highway truck to haul loads up to 40 tons. According to the company, the three-axle 6900 XD is designed to minimize cost per ton of material hauled and maximize shift productivity through lower fuel consumption, faster cycle times and superior operator comfort. Equipped with 110,000-pound-capacity planetary drive axles, the 6900 XD is powered by a Tier-3 Detroit Diesel Series 60 engine with a fully automatic Allison 4500 RDS transmission; is capable of speeds up to 43 mph; and has recorded fuel consumption of 7.13 gph on hauls of more than 12 miles.

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▲ Eaton Hybrid Electric Power System

By putting its new hybrid electric power systems into production, Eaton offers fleet owners a substantial fuel savings, quieter vehicle operation and reduced emissions, cutting the construction industry's carbon footprint and dependence on petroleum-based fuels. Hybrid electric power systems also provide engine-off PTO capability for operators needing worksite hydraulic functions and an auxiliary electric power source. As showcased on a Class 7 Kenworth T300 hybrid truck prototype, Eaton's electric propulsion system includes an UltraShift transmission, motor generator, two lithium-ion batteries and electronic controls.

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◀ Hydrema 912D & 912D MultiTip Side-Dump

With a larger, redesigned cab featuring computerized displays including on-board diagnostics, the D-Series version of Hydrema's compact 912 articulated dump truck features an electronic speeder in place of the old throttle cable, as well as cruise control. A two-axle ADT with a payload of 22,000 pounds, the 912D is also available in a MultiTip model, featuring side-dump capability. The gearshift, reverser, tipping function and multi-tip function are located in one joystick, integrated in the right armrest. The 912D MultiTip has an optional auto bed return feature which, by a push of a button, allows the operator to focus on driving while the truck turns and lowers the bed automatically.

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▶ IMT SiteStar Enclosed Lube Truck

IMT still offers the benefits of the SiteStar lube truck introduced in 2006, including reduced unit weight and increased storage space, but now also in an enclosed body model. Available in either a 13- or 17-foot body, the enclosed SiteStar has a roof that shields product tanks and personnel from the elements when at work in the field. The SiteStar's polyethylene tanks, as well as being 80-percent lighter than steel tanks, are designed to prevent foreign materials from contaminating the fluids. In cold regions, the enclosed body model also serves to keep fluids warmer, which allows for quicker pumping on site. Estimated list price: \$105,000 to \$196,000 (body only).

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Paving/Compaction/Concrete Pumps

► Bomag BF6615 Asphalt Paver

Weighing 20,500 pounds, BF6615 asphalt paver is a new model for Bomag. Powered by a 99-horsepower Cummins water-cooled diesel, the paver can carry 9 tons in its hopper and pave from 8 to 15 feet wide with a full-width floating screed. Dual operating stations permit control from either side, and the operator can see the working area because of the low engine position. Newly designed Unimat 2 screed is electrically heated. Dual vibrators provide 2,500 vpm. Paver can push feeder trucks while maintaining speeds to 180 fpm. Crawler-style track drive has bolt-on polyurethane pads, and eight sealed rollers per side carry the weight of the paver. Estimated list price: Not yet established.

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▲ GOMACO GT-3200 Curb-and-Gutter Paver

New-generation GT-3200 curb-and-gutter machine from GOMACO now has right side/left side pour capability. To accommodate paving in either direction, the operator's platform has a modular design, and it has been positioned for optimum viewing of all paving aspects. The dual-pour capability is accomplished by the machine's front track assembly, which can be either mounted to a flange on the front for left-side pour, or to a flange on the back for right-side. The conveyor accommodates both directions. The machine has faster tracking and paving speeds than its predecessor as well as increased maneuverability. Two-speed track motors move the machine up to 125 fpm, and maximum paving speed is 50 fpm. Estimated list price: \$170,000.

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▼ Astec Double Barrel Green System

Double Barrel Green System is an optional process that allows for the production of warm-mix asphalt without the addition of "costly commercial additives," according to Astec. The process uses water, which does not smoke or smell, includes a high percentage of recycled product (RAP), and uses 14 percent less fuel. The use of water causes the liquid asphalt to foam and expand in volume.

As it foams, the mixture coats the aggregate at a temperature about 50 degrees cooler than traditional hot mix, the company says. Other benefits include improved workability because of lower viscosity, and longer pavement life because of less oxidation of the mix and more uniformity of compaction.

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◀ Stone Groutzilla Placement System

Stone Equipment's Groutzilla line of placement systems mechanically delivers grout or mortar for placing in blocks, walls, forms or foundations. The unit can be cleaned without having to take apart the discharge snout or remove the auger. Positive shut-off valve completely seals the hopper to prevent water seepage. Units handle 20 cubic feet of material and can handle any slump. Coupled with a

telehandler or forklift, Groutzilla will fill multiple courses of block spanning 20 feet or more, according to Stone. Both PTO and gas-driven versions are available. Estimated list price: \$7,000 to \$11,545.

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► Bid-Well 4800 Bridge Paver

Paving bridge widths of 200 feet is no longer impossible with the Bid-Well 4800 automatic roller paver from Terex Roadbuilding, the company says. Truss frame and gussets are manufactured with a proprietary high-strength, low-weight steel that does not add weight to the machine. When paving beyond 150 feet, the new frame allows for configurations exceeding 200 feet. Patented Rota-Vibe system delivers up to 5,000 vpm to reconsolidate the top 2 inches of concrete. Drive is supported by a dual-chain hanger system to prevent the chain from sagging and to reduce the load on the drive mechanism and sprockets. Estimated list price: \$75,000 to \$125,000, depending on configuration.

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▼ Komatsu BR580JG-1 Mobile Jaw Crusher

BR580JG-1 mobile jaw crusher features Komatsu's patented Hydra-Mind fully hydraulic drive system that delivers the optimal amount of oil through load-sensing and pressure-compensated valves. According to Komatsu, this system senses overloads and automatically slows down the feeder. With an operating weight of 108,000 to 112,440 pounds, the machine is powered by a 345-horsepower Komatsu SAA6D125E-5 diesel. Newly designed vibrating grizzly feeder separates and evenly feeds material into the new KCJ4430 jaw, which has a load-presetting semi-automatic feeder system. Automatic discharge system can be reset with one-touch operation. Estimated list price: \$776,000.

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▲ Carlson CP-90 Asphalt Paver

Screeed manufacturer Carlson will enter the commercial asphalt-paver business with about a 19,000-pound machine that borrows road-paving-capacity material-handling and undercarriage components from parent company Astec's big pavers. A Cat C3 diesel delivers 84 horsepower to a hydrostatic drive and Carlson-designed tracks. Carlson developed a brand new, electrically heated 8-foot screed which is, they say, in keeping with the overbuilt power train, and will be exclusively available on the Carlson paver. EZ Mat Screeed will pave 4 to 15 feet.

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► Blastrac BMR 85D

Moving the operator into an enclosed cab, Blastrac BMR 85D road-texturing machine has side shift, on-board dust collection, and can handle multiple attachments. The machine can introduce micro and macro texture, remove striping, mill, and perform other functions. Cab is air conditioned and heated with a decibel rating of 72 dB(A). On-board dust-collection system removes airborne particulate and contaminants such as paint, surface residues and debris. Powered by an 85-horsepower diesel, the unit can handle the dust system and hydraulics necessary for attachments. Estimated list price: \$225,000.

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Paving/Compaction/Concrete Pumps



► Hamm HD0130V Double-Drum Roller

Hamm has implemented its oscillation technology into the rear drum of its HD0130V double-drum roller and says it is the largest tandem roller with that technology. With a drum width of 84 inches, the articulated vibratory roller, labeled "Ozzi" by Hamm, has an operating weight of 29,277 pounds. Built on the same platform as the HD130HV, it can travel up to 7.5 mph. Operators can access the machine from the left or right, and a 180-degree rotating operator's station has swivel seat and tilt steering wheel to provide visibility to drum surfaces, edges and work areas. Other features: 3.9-inch drum offset either left or right, hydrostatic dual drum drive, and dual-pump water system with all nozzles clearly visible from the seat. Estimated list price: \$160,000 to \$180,000. [Visit ConstructionEquipment.com/info](http://ConstructionEquipment.com/info) and enter 205



► LeeBoy 9000 Asphalt Paver

LeeBoy 9000 rubber-tired paver has an 8-foot electrically heated screed and weighs 33,000 pounds. It is the company's first entry in this size class. The 173-horsepower Caterpillar diesel is mounted transversely for ground-level access and cooling efficiency. Legend screed system extends hydraulically from 8 to 15.5 feet, and an on-board 20-Kw generator heats the main screed and front-mounted extensions. The paver has an 11-ton receiving hopper, hydraulic radius hopper wings, and high-strength plastic flashing. Dual 18-inch slat bar and roller chain conveyors feed the 16-inch-diameter augers, which can be hydraulically raised and lowered. Estimated list price: \$285,000 to \$325,000.

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► Red Rhino 7000/5000 Crushers

Red Rhino 7000 and 5000 series crushers have 67-horsepower and 30-horsepower Deutz diesels, respectively. The 7000 series handles secondary building and demolition rubble with a jaw of 700x400 millimeters. It outputs 20 to 140 millimeter recycled material. The 5000 has remote-control system, screener and vibratory tray feeder. The crushers' mobility and versatility make it ideal for many types of contractors. Estimated list price: \$89,900.

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► Dynapac CC524 Roller

Next generation CC524 tandem vibratory roller from Dynapac has higher frequency, higher amplitude values, and LCD instrument panel that moves with the operator seat. Water tank is under the roller and bar, and all of the spray nozzles are on the front and rear drums. Powered by a Cummins QSB 4.5 water-cooled turbo-diesel with aftercooler, the roller has 152 horsepower and automatically cuts to idling speed after 10 seconds at full rpm in neutral. Operating weight is 25,580 pounds. Estimated list price: \$150,000.

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Paving/Compaction/Concrete Pumps



▲ Hypac C766D Tandem Roller

Redesigned C766D tandem vibratory roller features a new operator's cockpit with sliding, swiveling seat and an increased vibration frequency to 4,000 vpm. The operator can quickly adjust positions without switching seats and has a clear view to the roller drum edges. Ergonomic joystick controls reverse automatically when the seat is reversed for natural right/left, forward/back control. Instrument cluster is also easy to read. Drums are 66 inches wide, and maximum centrifugal force is 32,800 pounds. The operator receives instant feedback to allow constant monitoring of amplitude, frequency, impact spacing and mat temperature. Speed limiter allows operator to set maximum speed. Estimated list price: \$170,000.

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► Rubble Master RM100 Mobile Crusher

Rubble Master added automatic feed control to its compact, mobile crusher line with the introduction of the RM100. Designed for simplicity of transport, the crusher has a folding conveyor and weighs about 61,000 pounds. The inlet opens 38x28 inches wide on an impact crusher with either two or four hammers. Powered by a 243-horsepower diesel and driven by a diesel/electric drive train, it can produce 242 tons per hour.

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► Caterpillar Compactors

Caterpillar CB22, CB24, CC24 and CB32 vibratory utility compactors have been upgraded for high mobility and performance as well as reduced downtime. Larger water tanks and fuel tanks extend operation. Electronic propel control provides two-step regulating curve that is

smooth and precise at low speeds but reaches top speeds quickly upon full lever stroke. Improved visibility to the drum edges give operators more control. Machines have a dual-frequency vibratory system with single amplitude. All are powered by the new Cat C1.5 diesel, which provides 33 horsepower at 2,800 rpm. Estimated list price: \$35,000 to \$45,000-plus, depending on configuration.

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► Sakai SW652ND Roller

The SW652ND double-drum roller from Sakai oscillates or vibrates on both drums simultaneously. Each drum is controlled independently, which enables the roller to achieve the required compaction faster on thin and thick lift asphalt applications, according to the company. The model's vibration mode is typical of other Sakai compactors, offering a high frequency of 4,020 vpm. The more gentle oscillation mode offers a new drum motion designed to neither over-compact the mat nor fracture the aggregate, which is especially useful when compacting thin lifts and in gaining density at the joints and during finish passes. Estimated list price: \$115,000 to \$135,000.

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Paving/Compaction/Concrete Pumps



▲ Terex E275P Asphalt Plant

Terex E275 asphalt plant is designed for rapid set-up and tear-down, "dramatically" reducing the time it takes to move the plant compared with other portable plants, the company says. The full base plant configuration can be moved in five loads. The drum is pitched at operating angle on its triple-axle chassis with all ductwork preinstalled, so producers can drop the landing pad and be ready to go. The plant produces 275 tons in an hour. Self-contained drum measures 84 inches in diameter and 39 feet 5 inches in length. Hauck 96.8 million Btu SJ520 or 100 million Btu ESII burner are available. Estimated list price: \$2 million, depending on configuration.

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► Vermeer HG4000TX Horizontal Grinder

Operator safety is key with Vermeer's HG4000TX horizontal grinder. Smart-Grind feature includes a controller that constantly monitors engine rpm and material feed rates. If difficult material causes engine rpm to drop below an efficient operating range, the system stops and reverses material until rpm is restored. Also, a Thrown Object Deflector reduces the distance and quantity of thrown material debris and is positioned to reduce interference when loading over-length material. Duplex drum cutting system features reversible hammers and cutter blocks to nearly double the life of single-sided designs, according to Vermeer. The grinder is fully self-propelled, and the operator can maneuver it via remote control. Tracks provide flotation and allow access to remote jobsites. Estimated list price: \$420,000 to \$490,000.

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◀ Vogele Vision Asphalt Pavers

Vision series of asphalt pavers includes two tracked machines and two wheeled models, one each at 8- and 10-foot widths. The series was designed around forward and all-around visibility, allowing the operator to see the sides, the hopper and the conveyors in the back. Sloped design aids that visibility, but swing-out operator stations on both sides and sliding control console enables the operator to place himself where he can best see. Other improvements include a display panel for monitoring fluid levels and inspection points, and a hydraulic front apron is available as an option. Apron prevents forward spillage of the mix, which eliminates much shoveling in front of the paver. Estimated list price: \$325,000 to \$400,000.

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► Wacker Neuson CRT Series Trowels

Wacker Neuson CRT 36 machines feature an integrated wheel kit that enables easy transportation around the jobsite. Units run from 20 to 165 rpm, with a unique variable clutch to provide proper torque and speed range to match concrete conditions without mechanical adjustments. CR 48 models have a torsion assist steering system that improves steering by reducing the amount of force needed to control the trowel by as much as 75 percent, the company says. All CRT series trowels have been redesigned with a new center engine design for better visibility. Heavy-duty frame gives operator a more solid feel and allows easy access to slab edges. Estimated list price: \$13,695 to \$21,880.

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Light Equipment



▲ **Atlas Copco HB 10000 Hydraulic Breaker**

Weighing in at 10 metric tons, the HB 10000 delivers 50 percent more impact energy than Atlas Copco's previously largest hydraulic breaker attachment, the HB 7000. Accepting hydraulic flow of 119 to 140 gallons per minute at operating pressures of 2,320 to 2,610 pounds per square inch, the HB 10000 delivers a hitting force of up to 800 tons per blow and an impact rate topping out at 380 blows per minute. It is suitable for carriers in the 85- to 140-metric-ton weight class at use in heavy-excavation and trenching applications. Offering such features as AutoControl, PowerAdapt, ContiLube II and an energy recovery system, the HB 10000 also comes with a ProCare maintenance contract and ProCom GPS. Estimated list price: \$575,000.

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► **DII Attachments Geith Pro-Link Thumb**

Following the excavator bucket tip through an extended range of motion, the Geith hydraulic Pro-Link thumb offers rotation of at least 180 degrees for improved material pick-up and placement. Custom built of high-strength 400BHN steel, the thumb uses a universal linkage pivot system that can be installed on the carrier's arm without removing the dipper arm linkage. A built-in linkage stop and lock-up pin prevents the thumb from accidentally deploying or damaging hydraulic cylinders, and provides storage for the thumb when not in use. The Geith brand offers Pro-Link thumbs to fit excavators ranging from 20,000 to 80,000 pounds. Estimated list price: \$8,300 to \$12,200 (not including hydraulic kits).

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► **Wacker Neuson EH 27 Low Vib Electric Breaker**

Compared to the previous model, the Wacker Neuson EH 27 Low Vib electric breaker lowers hand-arm vibration by 28 percent, yet increases power by 18 percent. Due to the lower vibration, the hand-held breaker's percussion system is able to work more efficiently. According to the manufacturer upon release of the product, the EH27 Low Vib is the only machine in the industry that dampens vibrations into the entire upper housing, including the handles, and thus further protects the user's body from vibration. A new leaf spring dampening system cuts hand-arm vibration to 5.5 m/s^2 , the lowest rating in the product class, and allows operators to work comfortably for a full eight-hour shift. Estimated list price: \$1,895.

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◀ **Honda Big Red Compact Utility Vehicle**

Honda's first entry into the "side-by-side" compact utility vehicle market, Big Red is powered by a liquid-cooled, 675-cubic-centimeter engine with fuel injection and overhead valves, managed by three drive modes. Incorporating Honda's focus on quality and convenience features, the Big Red multipurpose utility vehicle has a front and rear independent double-wishbone suspension system that will smooth the ride, be it on the jobsite, farm or en route to a favorite fishing hole. Estimated list price range: \$11,399 to \$11,899.

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► Wacker Neuson Compact Dumper Line

A new product-line offering to the U.S. market, Wacker Neuson's compact dumpers boast permanent four-wheel, hydrostatic drive for rough-terrain applications. The smallest of three units introduced, the 16.5-horsepower 1001 has a payload of 2,205 pounds, ideal for jobsite clean-up and residential landscaping. With payloads of 6,614 and 13,227 pounds, respectively, the 48.8-horsepower 3001 and 82-horsepower 6001 each has a power swivel, which allows the material-placing operator to dump at the front or either side of the unit. The addition of dumpers to a rough-terrain jobsite will, says Wacker Neuson, allow other machine types such as skid steers and wheel loaders to perform duties for which they are better suited. Estimated list price: \$30,000 to \$65,000.

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▼ Glacier Magnum Computer

A sealed, Intel-based personal computer designed for in-vehicle use, the Magnum from Glacier Computer features a 10-60 VDC internal power converter that allows the portable unit to be connected to any DC power supply without the need for external bricks or filters. The power supply absorbs spikes and allows for uninterrupted computing even during exposure to ultra low temperatures. The sealed housing and optional solid-state hard drive further protect the computer against vibration, shock and moisture. Additionally beneficial for construction users, a gloved hand can make inputs to the touch-screen display, which is sunlight readable. Estimated list price: \$4,900.

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► Lincoln Electric Invertec V155-S

Touch Start TIG DC allows users of Lincoln Electric's Invertec V155-S welder to strike the arc without tungsten contamination or high frequency for use in areas such as power plants. The new welder product from Lincoln Electric is capable of both soft and crisp stick modes, as well as TIG applications. Weighing less than 15 pounds, the Invertec V155-S is easy to take to any location, and it is operable from any portable generator or extension cord with its 120/230V auto reconnect input power. Estimated list price: \$886.

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▲ Brokk 50 Demolition Machine

An electric, remote-controlled demolition machine, the Brokk 50 is designed to match the production of a 1.5-metric-ton mini-excavator, but at a fraction of the weight and size. The Brokk 50 weighs 1,037 pounds and, at a width of less than 24 inches, can fit through standard doors and in most elevators. While retaining the footprint of the Brokk 40 it replaces, the Brokk 50 comes equipped with a 150-ft.-lb. hydraulic breaker as a safe alternative to two or three men working with jackhammers. As its bigger brothers can, the Brokk 50 is able to climb stairs and can accommodate assorted work tools. Estimated list price: \$83,000.

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Light Equipment

► Chicago Pneumatic Hydraulic Breaker Line

Boasting 12 model sizes, a hydraulic breaker attachment line introduced by Chicago Pneumatic Construction Tools incorporates an enclosed-box design with elastic damping elements. Three heavy-duty models, with service weights ranging from 4,850 to 9,259 pounds and having 5.9- to 7.1-inch working-tool diameters, are suitable for excavators weighing from 26 to 75 metric tons. Four medium models, weighing between 1,213 and 3,527 pounds, are built for 9- to 34-metric-ton carriers. Five light models, with service weights from 209 to 827 pounds, are for 1.3- to 12-metric-ton carriers. Heavy and medium models feature the CP-Lube automatic lubrication system that attaches directly to the breaker.

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◀ Sidegrader Attachment

Attaching at a hinged connection point to one corner of the backfill blade on a mini-excavator, the Sidegrader attachment allows a contractor to grade sidewalks and shoulders with a close enough tolerance to the curb to allow for forms to be set right on the grade. The cost of the attachment includes a Topcon grade-control system with a slope sensor, which maintains the grade within 3/16 of an inch. A product of contractor Sidewalk Grading Systems, the Sidegrader is designed to replace a surveyor, a second machine, and a crew of four laborers salting the forms up to grade — collectively a costly area for any contractor. Estimated list price: \$55,000.

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◀ Shindaiwa Simul-Phase Portable Generator

The patented Simul-Phase alternator allows for the simultaneous use of single- and three-phase voltage

with the same Shindaiwa mobile generator. The dual voltage allows users to have 120- and 240-volt power for lights, electric tools and air conditioners at the same time as supplying three-phase 240/480-volt power for motors driving compressors and pumps. Simul-Phase technology was first introduced on Shindaiwa's kWiet Power model DGK25C, a 20-kilowatt generator powered by a low-noise Isuzu diesel engine. Estimated list price: \$19,500.

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▼ Baldor TSLM35T Light Tower Kit

The TSLM35T kit adds a light tower to the 30-kilowatt Baldor TS35T towed diesel generator. With all four lights burning, the unit can still provide 25 kilowatts of auxiliary power. Taking about two hours to fit the light kit to the generator, special brackets and ballast box can be installed on the generator with no drilling. The self-contained, telescoping mast attaches to the brackets, and the lighting unit plugs into a 120-volt/50-amp twistlock outlet on the generator control panel. The mast can raise the lights 30 feet high and rotate 360 degrees. Four 1,000-watt metal halide lamps are enclosed in cast aluminum fixtures.

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Drilling & Trenching

► Ditch Witch Zahn

Historically Ditch Witch products were designed to be dedicated trenchers or dedicated plows. With the Zahn family of compact trenchers, two power units can be configured with seven different front ends — each functioning like a dedicated machine. Front ends are integrated into the power units to provide an articulated machine with unmatched ground speed, the company says. R150, R230 and R300 are 15-, 23- and 30-horsepower units, featuring two-wheel drive and two trencher options. The two larger models also have an InterChange that accepts a variety of front ends and provides four-wheel-drive operation. Those front ends include trencher, plow, dumper, tiller, backhoe, stump grinder, and a tool carrier that can drive more than 40 quick-change attachments. Estimated list price: \$11,900 to \$23,000.

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► E-Z Drill 240B SRA Combo Drill

With the new 240B SRA "combo" drill system, E-Z Drill is touting "a new concept in concrete drills." It combines standard features of the 210B SRA model with the ability to convert to a pneumatic core drill, thus catering to both rock-drilling and core-drilling jobs, and eliminating the need for separate systems. The company says it is the first automatic-feed core drill on the market. The unit can core and drill holes from 0.625 to 2.5 inches in diameter, up to 18 inches deep. Estimated list price: \$10,500.

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► Vermeer T1155 Commander III Trencher

Filling a gap between the T1055 and T1255, the new T1155 provides 30 percent more power than the T1055 but has a very similar footprint. The T1155 is the first machine in Vermeer's track trencher line to offer the TEC Plus control system, which is a CAN bus-based system that improves diagnostic capabilities and gives the operator more viewing options. The machine features the largest single motor trencher drive. The 16-liter motor drives the head shaft on one side, allowing the cab to be positioned on the opposite side. Vermeer says that optimizes the visibility to the trench, conveyor and tracks. Digging depths up to 16 feet can be achieved. Estimated list price: \$1,000,000.

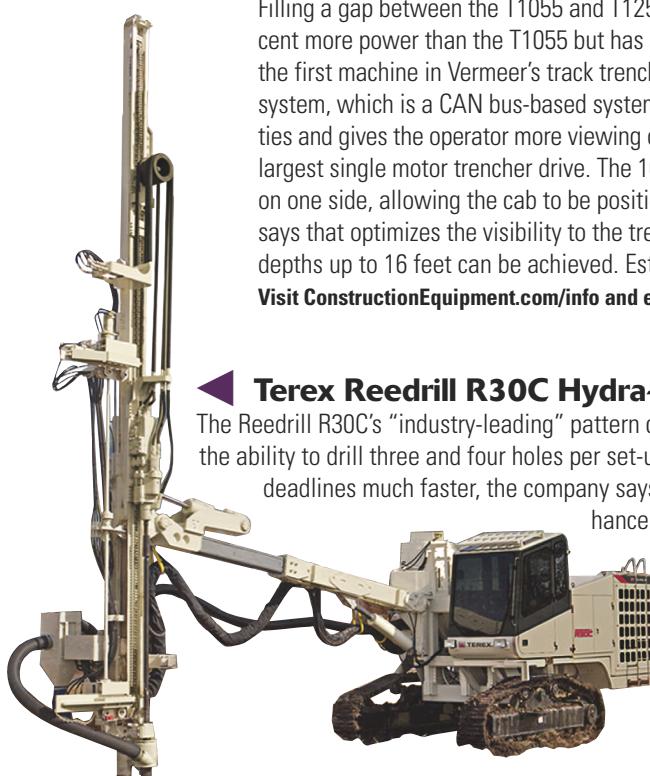
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► Terex Reldrill R30C Hydra-Trac Rock Drill

The Reldrill R30C's "industry-leading" pattern coverage is more than twice that of its predecessor, the 345C. With the ability to drill three and four holes per set-up before having to tram and reposition, operators can reach drilling deadlines much faster, the company says. More reach is achieved because of a 5-foot boom extension. Enhancements to the operators' station include armchair joystick controls, hydraulic valves moved further away, improved visibility, pressurized cab and more. SmartDrill drilling system uses anti-jam, anti-plug and anti-plunge features to lengthen drill-string life and increase production. The R30C's 300-horsepower Cat C-9 diesel engine offers better speed, fuel capacity and rated output.

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Lifting and Material Handling



▲ Volvo Pipelayers

Released in the second quarter of 2008, Volvo's PL4608 and PL4611 Pipelayers outdo traditional side-boom-equipped pipelayering bulldozers by boosting tipping capacity to 80 to 110 metric tons. The largest version, the PL7015, has a 150-metric-ton tipping lift capacity — 40 percent higher than the largest side-boom bulldozer, according to Volvo Construction Equipment. In addition, unlike side-boom bulldozers, Volvo Pipelayers boast a 360-degree swing design for repositioning pipes without having to move the entire machine. They also have an environmentally sealed cab. Estimated list price: \$799,000 for PL4608; \$967,000 for PL4611.

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▼ BilJax X-Boom Self-Propelled Lifts

BilJax's X-Boom Self-Propelled lifts take advantage of hydraulic outriggers instead of a heavy counterweight. At less than 5,000 pounds, the lightweight X-Boom is easy to transport; a medium-duty pickup truck and trailer can tow the lift.

The 36XT model provides a working height of 43 feet 6 inches and a load capacity of 500 pounds. Able to go slightly higher, the 45XT has a working height of 51 feet. Estimated list price: \$57,840.

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► Case TX Series Telehandlers

Case TX Series Telehandlers boast a low-boom design that improves stability and visibility for the operator. With a 153-inch turning radius, the TX Series maneuvers well even in cramped spaces. Equipped with the Case Family IV 4.5-liter turbocharged engine, the TX742 is rated at 95 net horsepower, with an operating weight of 22,700 pounds, lift height of 42 feet, and lift capacity of 6,600 pounds. The TX842, with a lift capacity of 8,000 pounds; and TX945, which lifts up to a height of 45 feet and capacity of 9,000 pounds, operate at 108 net horsepower. The three machines can achieve speeds of up to 22 miles per hour in forward and 14 miles per hour in reverse. Estimated list price: \$97,000 to \$114,000.

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▲ JCB Loadall Telehandlers

Introduced in early 2008, JCB's new range of high boom Loadall telehandlers boast fast cycle times and high lift capacities. Those new telehandlers, the Loadall 506-36 and the 507-42, can lift 6,000 to 7,000 pounds and have a working height of 36 to 42 feet. A third machine, the 509-42, can handle even more with a capacity of 9,000 pounds. Finally, the 510-56 has a 10,000-pound lift capacity and lift height of 56 feet. Each unit is powered by a JCB Dieselmax engine, which is EPA and CARB compliant. The new models improve over their predecessors thanks to rear-axle stabilization, powershift transmission, servo controls, and side engine for easy access. Estimated list price: \$60,000 to \$100,000.

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▼ **JLG G5-18A Telehandler**

Described by JLG as its "super compact" telehandler, the new G5-18A was rolled out in December 2007. With a maximum lifting capacity of 5,500 pounds, the G5-18A has a 1,850-pound lift capacity at the fully extended forward reach of nearly 11 feet. Powered by an 84-horsepower Perkins diesel engine, the telehandler combines hydrostatic transmission, four-wheel drive, and a choice of three steering modes for a minimum turning radius of 126 inches. Beyond machine specifications, JLG focused on operator comfort and extended service intervals in the design of the new machine.

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▼ **Elliott Equipment 26105 Boom Truck**

The 26105 Boom Truck from Elliott Equipment has a maximum boom height of 117 feet, 52,000-pound capacity, and 5-foot load radius. Able to link to Elliott's Superlink outriggers, the boom truck can work in extremely tight spaces, and optional add-ons turn the truck into a wide-radius digger or aerial work platform. Also featured are dual-operator control stations with four single-axis levers for the main controls and independent controls for the outriggers. Estimated list price: \$125,000.

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▲ **Bobcat VersaHandler V417**

The fourth and most compact model in the Bobcat Versa-Handler product line, the 75-horsepower V417 was introduced in late 2007. Offering maximum load capacity of 4,400 pounds and maximum lift height of 17 feet, the V417 is the first of what Bobcat calls its telescopic tool carriers to offer the Bob-Tach attachment mounting system, bringing Bobcat's heritage in compact machine technology to a telescopic boom. Select attachments for Bobcat large-frame skid-steer loaders, compact track loaders and all-wheel-steer loaders are approved for the V417's use.

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► **JLG FS80 LiftPod**

JLG's highly portable FS80 LiftPod aerial work platform contains five modules (base, mast and carriage, platform, power pack and work tray) designed to be carried by one person and assembled in about 30 seconds, JLG says. The LiftPod is a practical alternative to a ladder and typically can be transported in the back of a utility vehicle. The 63-pound base of the LiftPod is made of high-strength steel and its mast (44 pounds) and platform (30 pounds) are composed of lightweight aluminum. The unit's power pack (15 pounds) can elevate and descend with a worker an average of 20 times before recharging is required. It has a platform height of 7 feet 8 inches, a platform size of 24x20 inches and a capacity of 300 pounds.

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Lifting and Material Handling

► Manitou MLT 735 Telehandler

Combining features of the MLT 634 and MLT 741 models it replaces, the new MLT 735 multi-purpose telehandler additionally offers operators the patented JSM, a new joystick mounted on the armrest that serves as an ergonomic extension of the human arm. The MLT 735 uses a 123-horsepower Perkins Tier-3 engine to generate lift capacity of 7,500 pounds, maximum lift height of 22 feet 6 inches, and forward reach of 12 feet 9 inches.

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► Manitowoc's Model 14000

Sporting a maximum boom of 292 feet plus luffing jib of up to 364 feet, Manitowoc's Model 14000 is a fully hydraulic crane rated at 220-ton capacity. Line pull on the main drum is 31,500 pounds. Even with maximum boom, fixed jib and counterweights, the crane can be transported on just 12 trucks. Equipped with Manitowoc's EPIC with Can-Bus control system, Model 14000 allows for control of six independent closed-loop hydraulic circuits for optimum performance while lifting. Estimated list price: \$2,000,000.

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► Bronto Skylift S-170 XDT Aerial Platform

With a 170-foot platform height mounted on an 8x6-foot commercial chassis and a weight of just 60,000 pounds, the S-170 XDT truck-mounted aerial device can be transported across highways without special permits. It has long horizontal outreach at more than 115 feet. It can lift a three-person crew and their equipment, up to a total of 1,400 pounds. Also included is the Bronto +3 advanced control system, which monitors the outrigger settings and platform load to ensure that the platform remains within safe operating parameters. Estimated list price: \$80,000.

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► Link-Belt RTC-80130 Series II Crane

Link-Belt says the RTC-80130 Series II 130-ton crane is the largest rough-terrain model it has ever produced. The crane uses a five-section, 162-foot formed boom that is constructed of extra-high-tensile steel and has one double-acting, single-stage hydraulic cylinder with integrated holding valves. Five boom modes vary the extension of the telescoping sections, and wear pads with Teflon inserts self-lubricate the boom sections. Maximum boom tip height is 171 feet. The unit can be transported in two loads.

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► Manitex 5096S Boom Truck

The 5096S boom truck from Manitex is rated at 50-ton capacity at a 6-foot radius, which is said to be a 25 percent improvement over currently produced boom trucks. Still, the 5096S meets federal bridge law weight requirements, meaning no overweight permits are required. Standard features include solid radio outrigger controls, four-section 96-foot boom, and free swing with pilot-operated controls. Estimated list price: \$395,000.

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Ancillary Products



▲ Topcon 3D-MC² Dozer Grade Control

Topcon supercharged its dozer GPS grade-control system with an advanced inertial sensor and advanced firmware algorithms to operate automatic three-dimensional control at speeds, according to Topcon, twice as fast (or faster) than any current automatic system available. The 3D-MC² system updates the position of the machine and blade 100 times per second in nine dimensions to provide "unmatched stability and responsiveness." Using the next-generation Windows XP control box, the GX-60 is a touch screen computer with a faster processor to work with larger job files. Paradigm G3 technology accesses all available satellite systems now and in the future. Estimated list price: \$72,000.

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► Loup Loadlog 800PSi and 8000PSi Loader Scale

Advanced Weighing Mode in Loup Electronics' Loadlog 800PSi and 8000PSi is designed to reduce the impact that external influences such as vehicle bounce, changes in direction and engine/lift speed have on weighing accuracy. Displays are redesigned to be more intuitive so operators can spend more time safely operating the loader and less time reading the scale. Loadlog 8000PSi includes a slot for an SD data card that allows easy collection of load details. Files can be opened using common PC-based programs. Estimated list price: \$4,995 to \$6,300.

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▼ Poclain Hydraulics Addi-Drive Front Assist System

Addi-Drive Front Assist is a hydraulic on-demand, all-wheel drive system designed for use on Class 6 through 8 vehicles. Hydraulic motors integrated into the wheel-ends do not require modification of the truck chassis and do not change the cab/chassis height. The system saves about 1,000 pounds compared to mechanical front-wheel drive systems and installs in less than half the time. Addi-Drive Rear Creep Drive is installed on all types and brands of mechanical transmissions between the input and output shaft to allow vehicles to travel at speeds of 0.5 to 5 miles per hour independent of engine speed. Disengage rear creep and engage mechanical transmission to travel at normal highway speeds. Estimated list price, before installation: \$30,000.

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▼ Tuthill Drive Systems EZ Trac

EZ Trac is the first commercially available hydraulic front-wheel drive system for on-road trucks. Installation does not require a change in truck ride height, so the vehicle's center of gravity remains low, and Tuthill says factory steering angles and ride comfort are maintained. When disengaged, the hydrostatic drive saves fuel compared to mechanical drive systems, and front-wheel drive power can be engaged on the roll at up to 20 miles per hour. The entire system weighs about 1,000 pounds, which is 800 to 1,200 pounds less than comparable mechanical-drive add-ons. Estimated list price, installed: \$40,000.

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► Trimble Connected Community

The Trimble Connected Community (TCC) integrates a contractor's information from head office, site office and field crews into a collaborative communication portal. Web technologies present, to all of a site's stakeholders, data gathered and transmitted by Trimble's existing grade-control systems, site-positioning systems, and construction office software. Contractors can also include engineers, subcontractors, suppliers and project owners to share information such as change orders, design data or drawings, production reports, photos and video of site features, purchase orders, and other documents in a way that promotes efficiency and reduces communication delays and rework. Trimble says it built the TCC specifically for contractor workflows with direct links to its own contractor hardware and software, giving the TCC advantages over third-party collaboration tools — unique operations-cost savings, and uniquely actionable management insight. Web-based TCC tools are managed and hosted by Trimble, made available for a monthly service fee that varies with number of users and service requirements. Estimated list price: \$2,000 per month (can be as little as \$50 per user per month).

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► Topcon X62 and X42 Grade Controls

Topcon added the X62 and X42 excavating control solutions to make basic laser grade control of excavators more affordable. The X62 includes core sensor infrastructure to precisely track bucket-tooth position, so it can easily be upgraded to three-dimensional GPS control at a cost of about \$40,000. Operators interact with the system via the GX-60 touch-

screen graphical display. The X42 supplies basic indication of bucket-cutting-edge depth. The new GX-40 graphical display has a keypad, and a detachable light bar indicates the bucket's position relative to the desired depth. An optional laser receiver can be added to both units for about \$1,700, enabling the systems to read a constant laser benchmark. Estimated list price, X62 and X42: \$20,000 and \$17,000, respectively.

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► Leica RedLine Sensors

Unique modular construction of the Leica Redline product family allows the same sensors to be used across the entire construction site. The Leica Site Foreman application software provides a single, construction-oriented application on the Leica RedLine PowerController to handle all RedLine sensors for all construction site positioning needs. The RedLine is ready for every application from initial site surveys, through earthworks including 3D machine control, all the way through final as-built checks. Users have a single construction workflow-oriented application for all RedLine sensors for complete freedom to use the best technology (GLONASS, terrestrial-positioning-system satellite constellations, or both) for the job. Estimated list price: \$15,000 to \$45,000.

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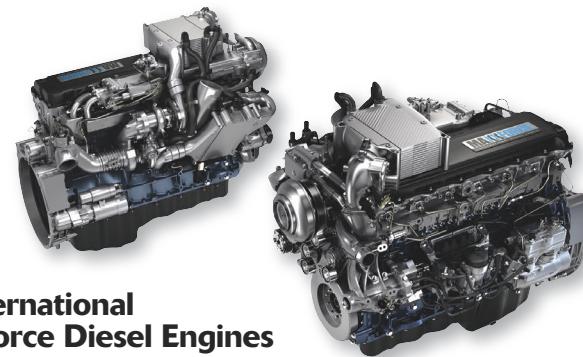
Ancillary Products



▲ Leica PowerBlade

Leica says its PowerBlade combines the functions of three different control panels while adding the capability to control a proportional valve (with both current and voltage) to get the most out of any machine. It provides a complete range of capabilities and options with a single panel. PowerBlade offers top-line 1D laser grade control performance for any budget. The same panel used with an optional power mast adds easy grade adjustments from the cab and survey capability for land-leveling. A step-lift feature lets the operator temporarily change grade, such as for layering, and return to the original grade setting with the flip of a switch. Estimated list price: \$3,500 to \$9,000.

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► International MaxxForce Diesel Engines

MaxxForce 11 and MaxxForce 13 big bore engines are engineered specifically for International Class 8 trucks using compacted-graphite iron (CG Iron) technology for a lightweight block. International developed proven base engineering from its collaboration partner, MAN, in Germany, for U.S. EPA emissions with high pressure common rail fuel injection, twin series turbochargers, exhaust-gas recirculation and aftertreatment technologies. Because CG Iron has greater inherent strength, thinner castings are said to achieve durability equal to that of an engine block cast from gray iron hundreds of pounds heavier. The MaxxForce 13 engine, for example, weighs 300 pounds less than one of the market's leading 13-liter engines. International says its advanced fuel- and air-management provide response to reach peak torque at 1,000 rpm for earlier acceleration upshifts and fewer grade-climb downshifts. This is said to keep MaxxForce big bores operating more in the lower speed range — where fuel economy is inherently better.

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◀ Hirschmann iVISOR Mentor QVGA Load Moment Indicator

Hirschmann Automation's iVISOR mentor QVGA load moment indicator (LMI) shows the operator a graphic display of geometric lift information including the actual and allowable load, boom length, boom angle, and load radius. A bar graph represents crane utilization. Display resolution is 320 x 240 pixels and includes BestVIEW technology that automatically adjusts contrast depending on temperature and lighting. The processor and operator's console are integrated into one unit, simplifying installation. Two CANopen interfaces enable networking the LMI with other controls or displays. The iVISOR provides the flexibility of optional Working Area Definition, event recorder, and use of wireless sensors.

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► Bobcat Roller Suspension

The Roller Suspension available as an option on Bobcat T250, T300 and T320 compact track loaders suspends its rollers on high-strength steel leaf springs to reduce vibration and improve operator comfort. The new Roller Suspension is made from all-steel components and steel-imbed rubber tracks to avoid sacrificing durability. No greasing or adjusting is needed on the system. The drive motor and hydraulic lines are kept in fixed positions to limit snagging of hoses and reduce wear from vibration and rubbing. Bobcat also reduced steering-lever effort required to turn the loader by raising the track idlers on the roller frame.

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▲ **Bobcat Radio Remote Control**

Bobcat allows loader owners to take the operator out of the cab with its Radio Remote Control Kit. All Bobcat loaders with Selectable Joystick Controls are radio-remote ready, and the receiver and emergency-stop box can be attached to them in minutes. The remote-control transmitter gives the operator wearing it all of the same machine control available in the operator's seat. Radio remote control can move operators out of uncomfortable or unsafe work environments, and it can eliminate a worker from applications that normally require two or more people.

Estimated list price: \$10,000

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▼ **Dana SmartWave Tire-Pressure Monitor**

The SmartWave system accurately measures tire pressure and temperature, communicating the information wirelessly. Robust sensors are mounted on the wheel rim inside the tire to protect them from damage or theft. The system communicates tire information to the vehicle's data bus so it can be displayed on original-equipment monitors or communicated off-board via telematic or other data exchanges. It can also be displayed by a simple dash-mounted gauge. Maintaining proper tire inflation pressure improves vehicle safety and helps fleets maximize fuel economy and tire life. SmartWave is proven in a variety of on-road, off-road, motor home and bus applications. Estimated list price for a 10-tire system: \$1,200 to \$1,500.

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▼ **Arsenault Dossier Tire Management System**

Dossier Tire Management System automates tire-data collection and reporting using a new digital handheld tread-depth and air-pressure device called Dossier Tire Probe. Bar codes or RFID tags fixed to on- and off-road tires allow field people to attach tire-condition information to each tire's individual ID number, and Dossier Tire Management software monitors the downloaded data to automatically identify tires with chronic under inflation or tread depth problems. In a real-time download environment, the system can automatically alert the technician with an audible sound and warning screen if a tire is at or below its low-air-pressure limit or minimum tread depth. Estimated list price: \$1,850 to \$5,500.

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▼ **Qualcomm GlobalTRACS Lite Machine Monitor**

GlobalTRACS Lite is an economical telematics solution that provides information on operating hours and remote machine locations to fleet managers wirelessly. The compact, easier-to-install GlobalTRACS Lite can be integrated into a system that includes full GlobalTRACS applications, or it can be used as a stand-alone equipment tool. Proactive theft-prevention and recovery features include a back-up battery to power alerts if the power is cut and engine-start curfew alerts to identify unauthorized (after-hours) equipment use. Assisted-GPS location technology allows the system to track equipment inside buildings and locations without a clear view of the sky. The data stream can be integrated with existing back-end software systems, and it is accessible via Qualcomm's easy-to-use Web application. Estimated list price: \$530.

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Ancillary Products



Caterpillar 988H Fuel Management System

Fuel Management creates three operating modes for a Cat 988H wheel loader — Full Power, Balanced Power and Max Fuel Savings. The system always maintains a top engine speed of 1,800 to 1,900 rpm while the machine is digging. When the machine is not digging, in Full Power mode maximum engine speed runs up to 2,120 rpm for high production. In Balanced mode engine speed outside the digging cycle is maintained at 1,800 rpm, and in Max Fuel Savings mode the non-digging engine speed drops to 1,700 rpm. Cat says Balanced and Max Fuel Savings modes can cut fuel consumption by 10 to 15 percent. Fuel Management is standard equipment on all 988H wheel loaders.

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ESCO Ultralok Bucket Tooth

The ESCO Ultralok is the first construction tooth system to integrate the locking mechanism into the tooth, reducing inventory demand and simplifying replacement of worn teeth in the field. The hammerless locking mechanism is pressed into a recess in the tooth casting and locks by rotating it with any simple prying tool. A slimmer profile improves penetration, which increases productivity and reduces fuel consumption. The Ultralok system is available in eight sizes with dozens of styles of teeth and adapters.

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Temp-A-Start

Temp-A-Start automatically starts and stops an engine to keep it warmed up and batteries charged. The patented system's sensors measure block temperature, battery charge and ambient temperature (cab temperature is an option). The operator can switch the system on when the ignition is on, turn the ignition off, pull the key, and walk away. Temp-A-Start automatically starts the engine if block temperature drops below 55 degrees Fahrenheit. If the transmission is shifted into gear with no key in the ignition, Temp-A-Start shuts down the engine. The system runs the engine until it reaches a preset target block temperature, then turns the engine off. If battery voltage drops below a preset level it starts and runs the engine until the batteries recharge. Estimated list price: \$1,945 to \$2,300.

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bbs-tek Back-Up Alarm

The bbs-tek Back-Up Alarm uses broadband sound, which can be directed much more precisely than tonal horns, so that warning sounds are heard only in and near the hazard area around a moving vehicle. The maker says that its much lower false-alarm rate makes workers less likely to ignore the warning. Because the white sound it generates is locatable and effective primarily in the risk zones, it eliminates nuisance noise. Estimated list price range: \$50 to \$200.

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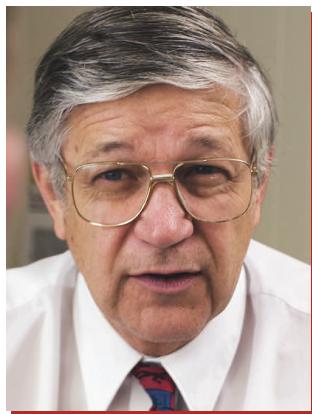
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By MIKE VORSTER, Contributing Editor

A Fair Approach to Project Utilization

Monitor equipment usage on the jobsite in such a way that accurate, yet reasonable, accounting occurs within the equipment division



Mike Vorster

David H. Burrows Professor of Construction Engineering and Management at Virginia Tech. See ConstructionEquipment.com for full archives of "Equipment Executive."

LEARN MORE from Mike Vorster at the Construction Equipment Institute, Jan. 6-9. Register now at ConstructionEquipment.com.

Few fleet-management procedures are as controversial as those designed to discourage projects from underutilizing equipment they have on site. Some companies have aggressive policies that penalize the jobs for underutilization by charging a fixed rate regardless of whether the machine is utilized or not. Others are more relaxed and charge only for the actual hours worked in the belief that communication and cooperation will identify underutilized assets and ensure that they are reassigned as needed.

Good practice lies somewhere in between. Draconian measures impact motivation and lead to gamesmanship; no measures lead to complacency and waste.

The need to maximize utilization and the need to base discussion on metrics rather than opinion means there must be a system to measure utilization and quantify its impact on performance. A fair and reasonable system exhibits the following eight characteristics.

1. Focus on owning costs. Changes in utilization impact only the fixed owning cost portion of the equipment owning and operating cost calculation. Systems to measure the impact of change in utilization should therefore be based only on the owning portion of the rate.

2. Set a clear baseline. The required utilization per week, month or year must be clear, well understood, and equal to the denominator used when converting annual fixed costs into the owning-cost portion of the rate.

3. Accommodate downtime. The system must recognize that downtime affects utilization. The required utilization, therefore, should be reduced by an amount equal to the downtime experienced when the machine should be working.

4. Allow for bonuses and penalties. It is unreasonable to penalize the job when utilization is low without providing opportunities when utilization exceeds expectations.

5. Must not impact job costing. Penalties for idle time or bonuses for high utilization should not impact the job-costing system. Job

How Fair and Reasonable Works

A Week	B Target Hours (T)	C Worked Hours (W)	D Down Hours (D)	Eqt. Acct. Receives			H	
				Operating Side W x \$60	Owning Side			
					T x \$40	D x \$40		
1	40	40	0	\$2,400	\$1,600	\$0	\$4,000	
2	40	30	0	\$1,800	\$1,600	\$0	\$3,400	
3	40	50	0	\$3,000	\$1,600	\$0	\$4,600	
4	40	30	10	\$1,800	\$1,600	(\$400)	\$3,000	
5	40	40	10	\$2,400	\$1,600	(\$400)	\$3,600	
6	40	20	10	\$1,200	\$1,600	(\$400)	\$2,400	
7	40	50	0	\$3,000	\$1,600	\$0	\$4,600	
8	40	50	10	\$3,000	\$1,600	(\$400)	\$4,200	
9	40	20	0	\$1,200	\$1,600	\$0	\$2,800	
10	40	40	0	\$2,400	\$1,600	\$0	\$4,000	
11	40	0	40	\$0	\$1,600	(\$1,600)	\$0	
12	40	0	10	\$0	\$1,600	(\$400)	\$1,200	
13	40	0	0	\$0	\$1,600	\$0	\$1,600	
Totals		520	370	90	\$22,200	\$20,800	(\$3,600)	
							\$39,400	

The example uses an hourly rate of \$100 to recover owning and operating costs. Of that, \$40 represents the owning side of the rate and \$60 represents the operating side.

costing should always reflect the time and cost of the resources actually used to do the work.

6. Easy to implement. The system should not rely on inordinate amounts of data collection, and as much of the calculation as possible should be done behind the scenes.

7. Provide good metrics. The cost impacts of running the fleet above or below target levels should be quantified as a separate total for each project. The value should not be lost, combined or disguised within the job-costing system.

8. Encourage appropriate long-term action. Annual fixed cost recovery need not occur every week or every month; it can take place over time. The important thing is to measure and achieve the required results over time.

The accompanying table is an example of a simple, straightforward approach that includes the required characteristics. It covers a 13-week period for a given machine, but it can clearly be extended to cover all the machines working on a particular project.

Notice that the \$100 hourly owning and operating cost rate for the machine is split into two distinct components. The owning portion, \$40 per hour, is designed to recover the anticipated owning costs. The operating portion, \$60 per hour, is set at a level sufficient to cover anticipated operating costs.

Column A indicates the weeks of the study period, and

Column B shows the baseline or required weekly utilization (Target hours, T).

The only data required are contained in columns C and D. Column C is the hours actually worked by the machine during the week (W), and column D gives the on-shift downtime experienced and recorded during the week (D). Columns E, F, G and H show the transactions that impact the equipment account as a result of the recorded utilization data.

Column E records the operating-cost side of the equipment account, which receives an amount equal to the operating portion of the rate multiplied by the hours worked. In 13 weeks the machine worked 370 hours at a cost rate of \$60 per hour, which generated \$22,200 for the account.

Columns F and G record the owning side of the account. This calculation starts with the targeted utilization multiplied by the owning rate, then an amount equal to the recorded downtime (D) multiplied by the owning rate is subtracted. Splitting this into two columns shows that downtime precluded the company from recovering \$3,600 of fixed annual costs. This metric is a good starting point for measuring the effectiveness of maintenance and replacement decisions.

Column H is the sum of columns E, F and G and shows the total of the equipment charges paid by the project to the equipment account.

Columns I, J and K show the transactions that affect the project-level cost codes. Column I shows that the operational cost codes have been debited amounts equal to the hours actually worked on the job (W) multiplied by the full owning and operating cost rate of \$100 per hour. This ensures that the job-costing system correctly reflects the cost of the resources actually used to do the work.

Column J measures the cost of idle time on the machine and is calculated by subtracting the amount debited to the job cost codes (I) from the amount paid by the project to the equipment account (H). The amount in column J is debited or credited to a single project-level standby equipment cost code and measures the impact that differences from the target utilization have on project results. Column K is the sum of columns I and J.

Column L is a running total of column J and measures the impact of over- or underutilization on the project to date. It increases when utilization falls below target, and it decreases when it exceeds expectation. This metric should encourage managers to action to achieve targeted utilization.

	I	J	L	K
	Bill to:			Cumulative Location Standby Eqt. Acct.
	Cost codes (W x \$100)	Location Standby Eqt. Acct.	Total Paid by Location	
	\$4,000	\$0	\$4,000	\$0
	\$3,000	\$400	\$3,400	\$400
	\$5,000	(\$400)	\$4,600	\$0
	\$3,000	\$0	\$3,000	\$0
	\$4,000	(\$400)	\$3,600	(\$400)
	\$2,000	\$400	\$2,400	\$0
	\$5,000	(\$400)	\$4,600	(\$400)
	\$5,000	(\$800)	\$4,200	(\$1,200)
	\$2,000	\$800	\$2,800	(\$400)
	\$4,000	\$0	\$4,000	(\$400)
	\$0	\$0	\$0	(\$400)
	\$0	\$1,200	\$1,200	\$800
	\$0	\$1,600	\$1,600	\$2,400
	\$37,000	\$2,400	\$39,400	

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The awards will be presented at the AEMP Annual Meeting, March 16, 2009, in Orlando. There is no cost to enter; however, entrants must agree to attend the awards ceremony at their own expense in the event they are chosen as winners.

Entry form available at www.aemp.org

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Dodge Emphasizes Fancy Rams, But Makes Work Trucks Nice, Too

Light-duty Rams have five trim levels that go from base to posh

You've probably heard a lot about Dodge's redesigned '09 Ram 1500 pickups and how nice they are, and maybe you've seen one or two since they've begun to appear on dealers' lots. The new light-duty Rams have five trim levels that go from base to posh, and what you've most likely seen or read about are the more upscale versions. But what would you buy for work?

If you run a fleet, you're likely to choose the basic-trimmed ST, and that's what I grabbed to drive during a show-and-tell event near Santa Barbara, Calif., late last summer. The truck was a plain, black Regular Cab with the standard V-6 engine and a short, 6-foot-4-inch bed. Specifications charts give this truck's gross vehicle weight rating as 6,025 pounds and its payload as 1,490 pounds (including passengers). With the 215-horsepower V-6, it's rated to tow 2,950 to 3,800 pounds.

To me the ST interior looked good and felt fine. Seats had attractive two-tone grey cloth coverings that were comfortable to sit on and will probably wear well. Bolsters provide good lateral support for driver and passenger, and there's a



Above: A plain, black ST pickup is nicer than it might look at first glance. Its 215-horsepower V-6 was surprisingly quick and its 4-speed-overdrive automatic shifted smoothly.

Roll-up windows and non-powered mirrors mark this as a work truck, but help limit this ST Regular Cab's price to about \$21,000. But the seats are comfortable and supportive, the controls and gauges readily readable and usable, and storage space generous — especially behind the seat.

center area for a third person who won't feel cramped because the cab is plenty wide. Without him or her you can fold down a big center armrest that has a compartment large enough to store a laptop computer or a bunch of upright files, separated by built-in fold-up dividers.

Controls for the radio and heater-air conditioner are big, well-marked knobs that can be understood at a glance and operated with little conscious thought, meaning the driver can keep his/her mind on the road. In the dash to the far right was a big, rectangular cubby hole that on higher trim levels has a hinged cover; below that is a large, locking "glove box" that would hold a couple of dozen gloves if that's what you'd put in there. And there's more than a foot of fore-aft room in a full-width tray behind the seat, enough for small tool boxes, paint pails or other stuff you don't want to throw in the wide and roomy bed.

The 3.7-liter (226-cubic-inch) V-6 was surprisingly quick from the get-go and still healthy at freeway speeds. It runs through a smooth-shifting 42RLE 4-speed automatic; a 6-speed Getrag manual is standard, but few are sold, marketers said. A 5-speed auto is used with the optional V-8s. While the V-6 could benefit as much or more from the added ratio, the 4-speed tranny and the six-cylinder engine help hold down the ST's list price to around \$21,000.

If you remember old, reliable 3- and even 2-speed auto-



matics, you know that a modern 4-speed slips less and its overdrive top gear — this one's ratio is 0.69:1 — lets the engine loaf at highway speeds. Yeah, its electronics can act up, but they pay their way with efficient operation. Both 4- and 5-speed automatic trannies have a neat spring-loaded thumb switch on the selector lever that lets you downshift and hold lower gears for braking on long downgrades; thumbing up causes an upshift to the next gear, and an LED indicator in the instrument panel shows which gear is engaged. There's also a Tow-Haul switch on the dash that delays upshifts and quickens downshifts.

With an empty bed, this truck's ride was appropriately firm. But the coil-link rear suspension smoothed out undulations in patchy pavement and, more noticeably, eliminated lateral hop over bumps. Remember that the truck still uses a solid rear axle, so side-hop is theoretically possible; however, engineers have arranged the five links and tuned the coil springs and shock absorbers to almost eliminate hopping. I drove another Ram that was loaded with a half-ton of bagged horse feed, and it was a bit better than a similarly loaded '08 Chevy 1500.

Nicer inside and out was an SLT Regular Cab with an 8-

foot long bed that I drove later. Its 390-horsepower, 5.7-liter Hemi V-8 easily dragged around an empty horse trailer weighing 2,900 pounds. This truck is tow-rated at 5,100 to 9,100 pounds, depending on axle ratio and other equipment. The latest Hemi has variable valve timing and V-8/V-4 operation that put its EPA fuel-economy rating within 1 or 2 mpg of the 310-horsepower, 4.7-liter V-8 and even the 215-horsepower V-6. But the smaller engines cost less upfront.

Another ride was a sporty R/T iteration of the Regular Cab, short-bed Ram. Its Hemi runs through a 4.10 axle ratio that will let the truck dash from 0 to 60 mph in under 6 seconds, according to our enthusiastic hosts, and yes, it sure was quick. The engine didn't race at highway cruising speeds, either, because a 0.67 overdrive 5th gear let the Hemi loaf at about 2,000 rpm at 65 mph.

The SLT and R/T have more exterior niceness, such as chrome-tipped dual exhausts coved into the rear bumper. And their plusher seats have power adjustments, while fancy faced instruments ringed with chrome bezels almost smile at you. If you're the boss, you might choose one of these. It'd beat wearing a neck tie.

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Earthmoving Report

By ROD SUTTON, Editor in Chief

PR 764 Litronic Comes to America

Liebherr's crawler dozer is the only hydrostatic drive train in this size range, and its introduction comes in response to higher demand

Liebherr is bringing its largest hydrostatically driven crawler dozer into the North American market, available in early 2009. The 422-horsepower PR 764 Litronic crawler dozer, with an operating weight ranging from 97,488 to 116,150 pounds, has been available in Europe for four years, and market dynamics — primarily in mining and energy conservation — warranted the move to the Americas, says Jeff Shadowens, product specialist. It joins the smaller PR 724 and PR 734 here, with Liebherr's PR 744 and PR 754 models marketed in North America by John Deere as the John Deere 950J and 1050J, respectively.

The dozer has the only hydrostatic power train in its class, which includes the 449-horsepower Komatsu D275AX-5 and the 410-horsepower Cat D9T.

Putting hydrostatic drive in the larger crawler would have meant enlarging the machine to accommodate the larger pumps and motors, Shadowens says, necessitating a design change to the entire machine. Instead, Liebherr took components similar in size to those used in the PR 744 and PR 754 units and "doubled them up," he says.

"We found that using smaller pumps in-line meant you don't have to use larger components," Shadowens says. "The double-tandem system of the Liebherr hydrostatic drive reduces service cost and enables us to use the available space." In fact, he says, the system fits compactly inside the existing machine design and enables it to keep its low center of gravity and ground clearance.

Powered by a Liebherr D9508 V8 engine, the machine's hydrostatic drive train provides infinitely variable speed,

Liebherr PR 764 Litronic crawler dozer, with 422 horsepower, has been available in Europe for four years.



Controls have been ergonomically positioned for ease of reach, integrated to a specific point so all panels are in front of the operator.

which according to Shadowens, means high-power and low-speed operation is not limited by specific speed ranges. "Infinitely variable speed covers the full speed range with high efficiency," he says. "With the engine running at optimum rpm of 1,600, you'll get maximum performance and fuel efficiency." Speed and torque are automatically adjusted.

The component design also allows Liebherr to keep the tilt-back hood design, which provides access to the engine's service points and to the various mechanical assemblies, including travel gear and power hydraulic components.

The fourth-generation machine also includes improved cab and operator work space. Totally redesigned, the six-

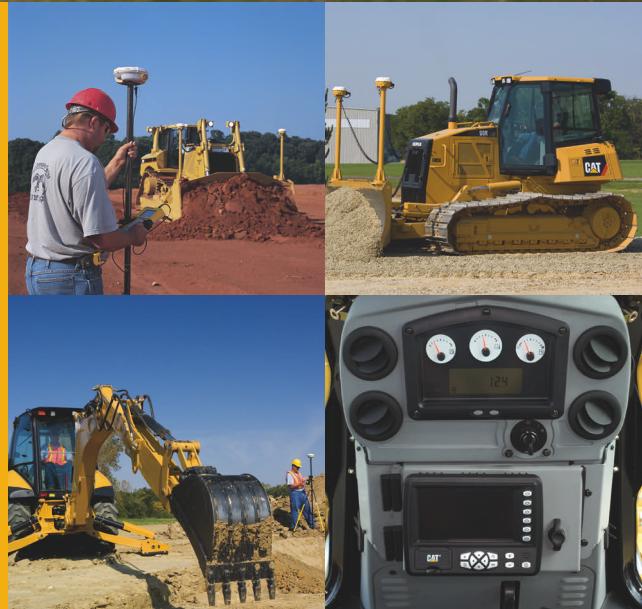


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Earthmoving Report

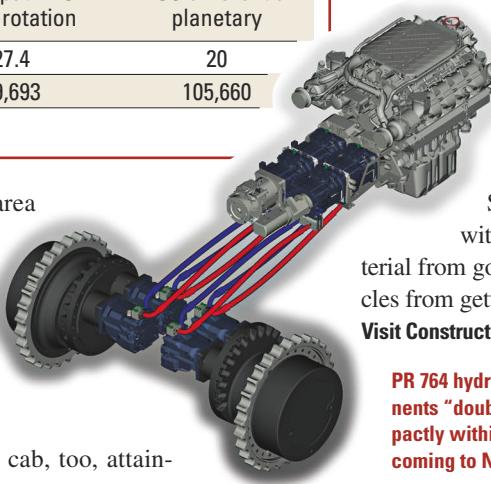
PR 764 Competitive Specs

Model	Caterpillar D9T	Liebherr PR764	Komatsu D275AX-5
Net Power (hp)	410	422	449
Engine	Cat C18	Liebherr D9508A7	Komatsu SAA6D140E-5
Transmission Type	Powershift	Hydrostatic	Powershift
Steering System	Differential steer type	Dual-path HS w/ctr rotation	HSS differential planetary
Ground Clearance (in.)	23.5	27.4	20
Operating Weight (lb.)	94,900	99,693	105,660

Source: ReedConstructionEquipmentGuide.com

sided cab has improved vision to the work area and to the blade and rear ripper. Inside, ergonomic positioning of the controls make them easy to reach. "Everything's integrated to a specific point in the front so all of the information panels are right in front of the operator, in reach," Shadowens says.

Liebherr reduced noise levels inside the cab, too, attain-



ing a rating of 79 dB(A), below the ISO standard, according to Shadowens. "With our engines at steady rpm, the engine almost becomes white noise," he says.

Other cab features include a large storage compartment that includes a 12-volt power socket to supply a cold-storage box. The seat has a variety of adjustment and three-position armrests.

Two track systems are available: an optional pivoting-track, or bogie, system and a rigid track. "Bogie in rough terrain gives a smoother ride," Shadowens says. "Rigid comes with a full track guard to prevent material from going into the tracks. It keeps particles from getting in between the rollers."

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PR 764 hydrostatic drive features smaller components "doubled up," enabling the system to fit compactly within the existing machine design. Now it is coming to North America.

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By MIKE ANDERSON, Senior Editor

Bobcat Works Out Market Needs

For implement-owning customers, the newest Toolcat's as accommodating on the back end as it is up front

Since its inception six years earlier, the Toolcat had been billed by Bobcat as more of a work tool than the compact utility vehicles it's often compared to. With the most recent introduction of the new 5610 model, the message to the market is being reinforced.

"Now that we've put the PTO and three-point hitch on it, they're truly seeing separation of the Toolcat from their typical Ranger or Mule. They're seeing it more as a working machine than a utility vehicle per se," says Rob Gilles, marketing manager with Bobcat, a subsidiary of Doosan Infracore. "It's definitely different than anything else out there."

The Toolcat 5610 is built on the same frame as the 59-horsepower, four-wheel-drive Toolcat 5600 now available in a D-Series model, but it features a three-point hitch and hydraulic power take-off (PTO) for rear implements. Since inception, the Toolcat has met with solid market success in the building and grounds market, explains Gilles, but less so in the agricultural and landscaping markets for which it was originally thought to be well suited.

"Through customer visits and dealer visits, we've found out the ag market still felt there was a use for that type of vehicle, but they wanted a way to carry their three-point implements," he says, "and we found that same scenario in the landscape market. That's what sent us back to the drawing board. The big push for the 5610 was the ability to run those implements."

"If they can't utilize the attachments they already own, it's like, 'Well, now not only do I have to go buy a new attachment carrier, but I have to go replace all the attachments.' This allows people to run their Category 1 attachments off the rear, and then they can still rent all of the front attachments."

"There's really nothing manufactured that can have more combinations of attachments and implements than the 5610."

With the front lift arm boasting a rated operating capacity of 1,300 pounds, increasing to 1,500 pounds with an optional counterweight kit, the 5610 can operate more than 40 front-mounted attachments with the Bob-Tach mounting system. The optional Power Bob-Tach allows the changing of non-hydraulic attachments with the flick of a switch from the cab.

By operating two attachments at the same time, such as a

With the Toolcat 5610's three-point hitch, customers can use their existing Category 1 implements up to 1,775 pounds.

hydraulic soil conditioner on the front and a mechanical seeder on the rear, operators can save time by not having to stop and change out work tools between tasks.

A rear remote hydraulics option allows operators to control two hydraulic cylinders at one time, allowing for on-the-move angling of a box blade or adjusting of a snow blower chute.

Aside from the 5610's addition of the three-point hitch and PTO, the only other change from the 5600 is the removal of the cargo box to enhance visibility to the rear work area.

"And most of the customers commented that if they just needed somewhere to put cargo or to haul a load, they'd just hook up a trailer to it," says Gilles.

Toolcats vary in price from the mid-\$30,000 range for base models up to about \$50,000 for fully optioned vehicles.

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Toolcat 5610 has a three-point hitch and hydraulic PTO for rear implements, yet retains the ability to run 40+ front-mounted attachments.



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By KATIE WEILER, Managing Editor

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Real-time event now offers alerting to its OnlineAVL2 fleet-management software. Alerts available include idle alert, stationary alert, and unauthorized-use notification. Software package includes real-time vehicle position, integrated maintenance modules, mileage reporting and high-resolution satellite imagery.

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Vermeer

Available as a center-mount option for the RT950 utility trencher tractor or the RTX1250 quad-track or rubber-tired tractors, Vermeer's new hydrostatic wide-cut rockwheel attachment is designed to cut up to a 12-inch-wide trench up to 40 inches deep in one pass. Changeable segment pockets offer the flexibility to cut trenches ranging in width from 4 inches up. The segments are available in either a general-duty pattern style for use in soft rock, asphalt and compacted soils or an aggressive-duty pattern style for concrete and hard-rock applications. By powering the 84-inch-diameter cutter wheel hydrostatically, the potential for gearbox failures is eliminated, says Vermeer.



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Miller Electric

The addition of a fully enclosed case provides not only added protection, but quieter and cooler operation for Miller's Bobcat 225 welder generator, especially when mounted on a truck with restricted airflow. The Bobcat 225 provides 10,500 watts of generator power and up to 225 amps of welding output for stick, MIG, TIG, flux cored and air carbon arc gouging applications. While the new case directs hot air away from the engine to ensure full output even in hot weather, sound levels have been cut by 33 percent, according to the manufacturer. The gas-powered unit is available with a 23-horsepower Kohler or 22-horsepower Subaru/Robin engine.

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E-Z Drill

The downsized version of E-Z Drill's Model 210B On-Grade concrete drill, Model 110B operates on the subgrade and fits in a 3-foot patch. A minimum of 50 cubic feet per minute air source is required to run the totally pneumatic system, which can drill holes from 5/8 to 2 inches in diameter to a depth of



12 inches. E-Z Drill's patented roller bearing feed system eliminates carriage friction during drilling, allowing an operator to drill faster with a smaller drill motor. Dual-purpose guide wheels slide horizontally along the concrete slab and can be flipped down to transport the 170-pound machine.

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Standard Hamilton

A dump insert is now available from Standard Hamilton for light-duty pickup truck models such as Ford Rangers and Dodge Dakotas. As with the full-size Dump-Pro model, the new Compact Dump-Pro transforms a standard hauling vehicle into a dump truck. With rated capacities of 3,000 pounds for hauling and 2,700 pounds for dumping, it handles 1.1 cubic yards of material in the basic version and up to 3 cubic yards with the Hi-Sides option. The dumping mechanism is driven by a powered winch system requiring no hydraulics, and it can tilt up to 60 degrees.

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Market Watch Lite

TurfEx

For mounting on tractors, pickup trucks or utility vehicles, two TurfEx bulk material spreaders feature adjustable stainless-steel spinners and variable speed control to ensure precise material feed and spread pattern. Spread width on each model is adjustable up to 30 feet. With capacities of 9 and 11 cubic feet, respectively, the hoppers of the MS-1875 and MS-2000 are constructed of heavy-duty polyethylene. Though the hoppers feature thick-walled construction, they are up to 40-percent lighter than similar-sized steel units.

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Miller Electric

Multivoltage plugs have been added to Miller's Maxstar 150 TIG/Stick welder, enabling it to connect to 115- and 230-volt receptacles. A larger polypropylene X-Case is included with: S (Stick-only), STL (Stick/TIG Lift-Arc start) and STH (Stick/TIG high frequency and Lift-Arc start) models. The STL and STH models include a redesigned 6-pin receptacle for use with a foot pedal or remote control switch. Maxstar 150 models weigh 13.7 pounds and have DC Stick/TIG output of 150 amps at 30 percent duty cycle using 230 VAC power.

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Morris Material Handling

ZIP-V electric chain hoist from Morris Material Handling has lifting capacities from 1/8 to 5 tons and is available in various speeds and frequencies. Epoxy paint finish is 80 microns thick and the load chain is electro-zinc plated for corrosion resistance. Five-pocket load wheel provides accurate load positioning and long chain life, the company says. Plug-in pendant station enables efficient installation and ease of maintenance. Slip clutch protects from overloads.

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Vermeer

With the intuitive VZ Steer system, minimal operator effort is required to control the direction of the Vermeer RTX100 pedestrian trencher. When the machine's in motion, the input and pace of the operator moving the handlebar will control the angle and sharpness of the turn, allowing the operator to maneuver in and out of confined spaces and around obstacles at will. This type of steering system eliminates the need for additional levers or steering wheels. The RTX100 features interchangeable tires and tracks, which allow the pedestrian trencher to be configured for maximum productivity in varying ground conditions. It has the ability to trench up to 36 inches in depth and 4 to 6 inches in width.

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Yanmar Industrial Engines

Yanmar 3TNM72 903cc, three-cylinder diesel has been added to the Minimax series. Proprietary indirect injection technology on the Tier IV-compliant engine provides low fuel consumption and emissions levels, the company says. New cylinder block design provides high output levels relative to engine's mass, according to the company.

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HKX

HKX hydraulic kits for Terex TX760B through TX970B backhoe loaders are specifically engineered for each model of backhoe, according to the company, and enable the use of attachments such as breakers, compactors and thumbs. Illustrated instructions allow for quick and easy installation of the preassembled and organized components.

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Coxreels

New models as part of Coxreels' T-Series truck-mount reels feature increased capacities of 75 feet for 0.75-inch-internal-diameter hose and 50 feet for 1-inch hose. A new dual-bearing axle support system creates smooth low friction, extraction and retraction for the resistance of wear in abusive environments. All reels are spring-motor-operated and, for strength and rigidity, come standard with Coxreels' Super-Hub and triple axle support with full frame.

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Rollmaster

Able to pump paint directly from a 5-gallon pail, the relatively inexpensive, easy-to-use, and virtually noiseless Rollmaster 5000 paint striper features a peristaltic pump that squeezes paint through the delivery hose, preventing paint from making contact with the pump components. The disposable paint roller and hose also allow for quick clean up. A single battery charge drives the 12-volt gear motor for more than 24 hours of continuous striping.

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Wacker Neuson

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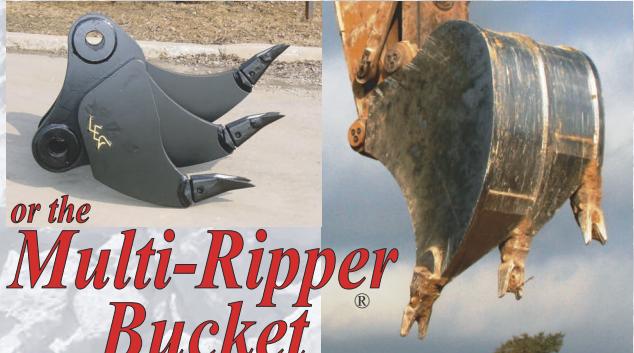
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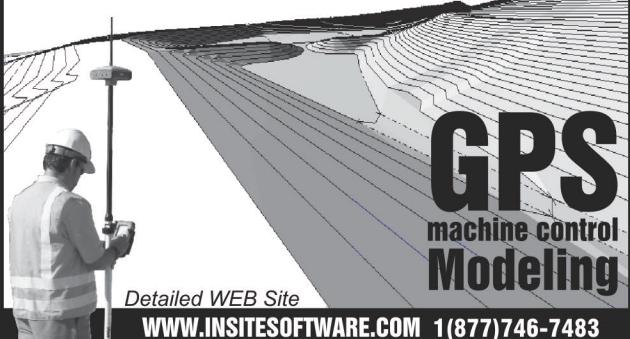
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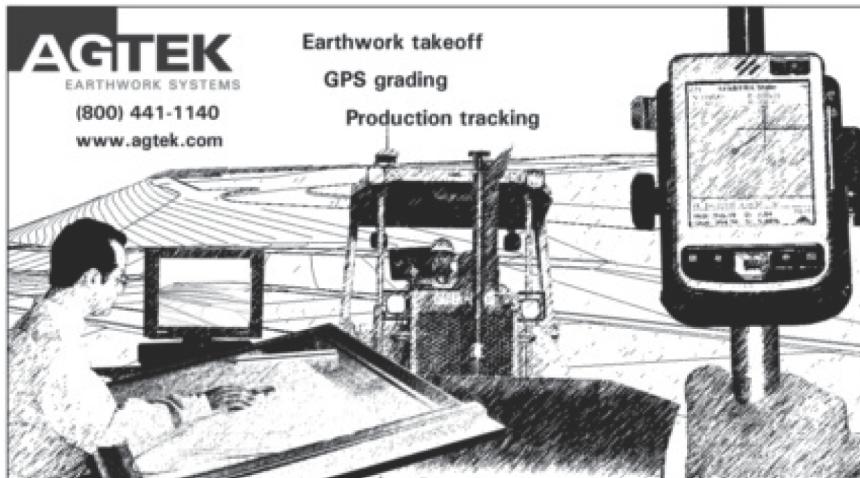
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Bucyrus-Erie Hydraulic Excavators

In the 1960s, Bucyrus-Erie joined the trend toward hydraulic excavators, adding new designs to its traditional cable-operated machines for the construction market

With increasing competition from European hydraulic-excavator producers in the early 1960s, traditional American manufacturers of cable-operated excavators struggled to change over to the new method of digging. Increasingly reliable hydraulic machines were more maneuverable, easier to operate, cheaper to buy, and offered positive bucket action in all directions. Many long-established excavator builders could not make the change and consequently discontinued their product or merged with other companies. Others made a brave attempt at designing their own machines with mixed success. Leading excavator builder Bucyrus-Erie fared better than most by recognizing the hydraulic advantage at an early date.

Bucyrus-Erie made its first move into hydraulic machines by purchasing Milwaukee Hydraulics in 1948, a company that two years earlier had introduced one of the world's first hydraulic cranes. The result was a line of truck-mounted hydraulic cranes and excavators known as the Hydrocrane and Hydrohoe. Although these early machines did not impact sales of the company's cable excavators, they laid the foundations and provided experience for the company to launch a new line of crawler-mounted, fully revolving excavators in the 1960s.

In 1965 Bucyrus-Erie unveiled the 20-H, first of a new range of crawler-mounted excavators that would eventually cover sizes up to the 60-ton 40-H. The 3/4-yard 20-H was powered by Cummins or GM diesel engines of 106 horsepower, and weighed 19 tons in operation. The modern-looking machine featured a low-profile engine house, isolated operator's cab, and a ball bearing swing circle. But showing its cable-excavator roots, the hydraulic propel motor was mounted in the upper works with drive to the crawlers transmitted through the center pintle via shafts and gears, and steering actuated by air-operated jaw clutches and brakes. The final drive to the heavy-duty crawler-crane undercarriage utilized tumblers rather than sprockets as in later models.

Keeping pace with European competition, Bucyrus-Erie broadened its hydraulic-excavator line by introducing the 1/2-yard 15-H in 1966, the 1-3/4-yard 30-H in 1967, and the 3-yard 40-H in 1970. By the time the 40-H appeared in 1970, the outmoded form of propel with motor in the upper



Bucyrus-Erie 20-H hydraulic excavator equipped with special rotary boom attachment.

works and air-operated clutch steering had been replaced by a hydraulic motor in each crawler side frame, providing independent drive to each crawler. Independent crawler drive was also provided in later upgrades to the 15-H and 20-H.

Further advances appeared in 1975 when Bucyrus-Erie introduced the 350-H, a 46-ton backhoe of 2-1/2 yards capacity and forerunner of a new line of state-of-the-art excavators with high-pressure variable-displacement piston pumps. This efficient system, used by European manufacturers since the 1950s, departed from the fixed-displacement low pressure gear type motors employed in most early American designs. By the end of the decade, this new line had superseded all previous models and was topped by the 112-ton 500-H at 5 cubic yards capacity. In 1985 Bucyrus-Erie sold its entire construction-equipment business to concentrate on its larger machines for the surface mining industry.

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Learn more about machines of Bucyrus-Erie and Bucyrus International in Keith Haddock's new, fully illustrated book: "Bucyrus Construction and Mining Machines 1880 to 2008" available in most bookstores. Also, consider a membership in the Historical Construction Equipment Association, [www.hcea.net](http://hcea.net) And be sure to visit ConstructionEquipment.com for past Iron Works features.

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