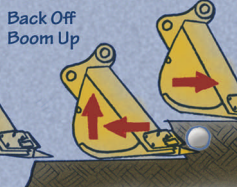


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CONSTRUCTION EQUIPMENT®

April 2010
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Ideas and Solutions for the Equipment Pro



Ready for Work

Diminished demand for small pavers hasn't kept manufacturers from innovating **p. 40**

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April 2010 • Vol. 113, Issue 4

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FEATURES

PRODUCTION HEROES

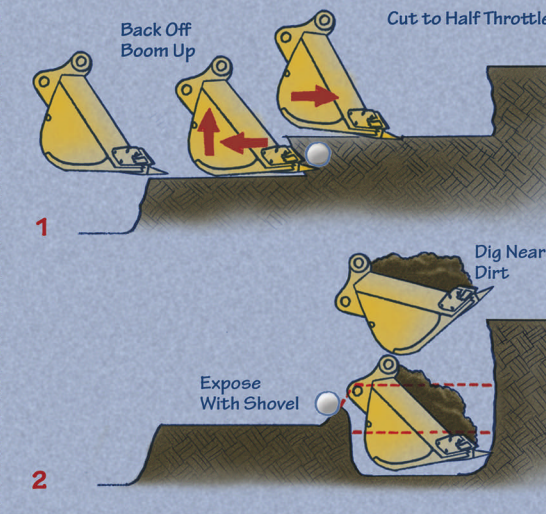
24 Excavator Operators Raise The Bar on Site

Hydraulic-excavator operators have a unique opportunity to set an example for safe, productive work. On most jobsites, everybody is watching the excavator because of its key production role. There are hundreds of ways the excavator operator can demonstrate quality work, but these few apply to most of the versatile machine's production-leader jobs.

The most overlooked step in any construction work is the daily, or more frequent, inspection required to assess the condition of the site, equipment and materials. An excavator operator who makes a daily habit of walking his work zone to check for hazards and carefully inspects the machine to be sure it is ready to produce may be the most valuable teaching tool a project manager could ask for.

Even where project foremen or other supervisors satisfy the Occupational Safety & Health Administration's "competent person" excavation-safety regulations (see 29 CFR 1926 Subpart P), excavator operators who also get competent-person training can dramatically improve a firm's excavation work.

Exposing Buried Utilities



SPECIAL REPORT: WORLD OF CONCRETE

41 Concrete Show Launches Recession-Defying Innovations

Wirtgen's first U.S. slipformer and Wacker's electronic-joystick trowel epitomize OEMs taking risks to entice buyers. Also introduced were the Kubota 5-ton-class KX057-4 mini excavator (left) and Bobcat's M Series compact excavators. Besides the dozen products Larry Stewart details in print, there are several more available online.





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So, the question remains: is it a coincidence that seven of the last eight Sheldon G. Hayes Award winners have used Cat Asphalt Pavers? Well, we can't speak for the winners. But, as they say, results don't lie.

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Contents

HANDS-ON TRUCKING

37 Smart, Smooth UltraShift Plus Made For Off-Road

The UltraShift transmission is in its third generation and works pretty well, according to fleet managers. However, the 10-, 13- and 18-speed AMTs are strictly on-road products. Eaton engineers have been working on a new series of AMTs, and now they're here, ready for consideration by people who run dumpers, mixers and other kinds of vocational vehicles. Eaton calls

this new product the UltraShift Plus, which is a good name because it adds useful features and capabilities to the earlier product's attributes, making the -Plus work as well in the dirt as on the pavement.



BUYING FILE

40 Competent Commercial Pavers Await Recovery

Asphalt pavers with operating weights between 10,000 and 19,000 pounds are most in their element when paving parking lots, driveways, tennis courts and recreational paths. That's why they're typically called "commercial" pavers. We hasten to add, however, that some machines in this size class are quite capable of also paving city streets and county roads. And, although the market for these versatile machines has diminished in recent years, today's buyers nonetheless still have a relatively broad selection of models — many with features perhaps unexpected in small machines.



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Telematics Milestone

Last month, at the Annual Management Conference of the Association of Equipment Management Professionals (AEMP), the nation's top equipment managers discussed the just-released telematics standard. Based on what we've seen over the past few weeks, and conversation at the conference, the industry does not fully understand the magnitude of what has just happened.

An association of end-users convinced some of the world's largest heavy-equipment manufacturers to change the way they deliver machine data. This wasn't just a focus group; this was a gathering of the best IT minds within John Deere, Caterpillar, Komatsu and Volvo.

What has transpired over the past months, frankly, is amazing. OEMs have agreed to allow end-users access to proprietary machine data and download it, generically, into their own fleet-management systems.

To properly understand this, realize that each OEM has its own programming language specific to its machines. For any equipment manager responsible for more than one brand of machine, that is just plain inconvenient. If the fleet is large enough and heterogenous enough, managing data isn't inconvenient, it's borderline impossible. For many, it was simpler to pay someone to write proprietary software and either ignore the OEM data or figure another way to compile it.

The AEMP managers who met with the OEMs made this case clearly and convincingly. That's obvious in the way the OEMs responded: graciously and quickly.

Equipment managers who employ, or are thinking of employing, telematics should respond two ways. First, thank any and all AEMP members that you know. In fact, if you're not a member, consider signing on. This organization has the respect of the key suppliers and dealers in the equipment field. They just made a huge difference in your world.

Second, investigate www.telematicstandard.org. This is not an AEMP standard; it is available to the industry. Give the standard some thought and provide feedback on its acceptability or with areas to improve.

Become involved in ensuring this groundbreaking standard allows managers to access machine data in the best manner possible.



Rod Sutton, Editor in Chief

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

By KATIE WEILER, Managing Editor



Hyundai

Model R27Z-9 marks the first addition to Hyundai's family of zero-tail-swing excavators. The unit weighs 6,349 pounds and is powered by a new Mitsubishi S3L2 engine rated at 23.1 net horsepower at 2,300 rpm. Cab features include adjustable seat and armrests, large foot pedals, ergonomic joysticks prewired for auxiliary hydraulic functions, as well as 360-degree visibility. The company's CAPO system provides computerized control of all electric-powered functions.

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Gehl

New to the Gehl product line, compact-articulated-loader models 140, 340 and 540 have rated operating capacities from 950 to more than 2,550 pounds. The machines can run virtually all universal-type attachments, and articulated steering allows for turns up to 45 degrees, the company says. Powered by Yanmar Interim Tier IV diesel engines, the units range in horsepower from 23 to 47. Narrow machine widths allow access to confined spaces.

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Bergkamp

The M1E self-propelled continuous slurry seal and micro surfacing paver comes equipped with the EMCAD system, which electronically controls production and provides feedback to the operator. The standard M1 features direct drive hydraulics to work with the EMCAD system. Bergkamp says the system ties material ratios of aggregate, asphalt emulsion, water, additive and fines together with an electronic signal and automatically maintains the ratios with feedback loops.

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Wacker Neuson

The 1150 is a rigid-frame, four-wheel-steer loader with 9,127 pounds of tipping capacity at full turn and a 1.5-cubic-yard standard bucket. The Deutz-powered, 77.8-horsepower loader weighs 5.9 metric tons and is the largest of the Wacker Neuson wheel loaders. A single joystick controls all of the loader functions, and a hydraulic quick-hitch allows fast attachment changes without leaving the operator's station.

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Market Watch



Terex

Capacity of the new TA400 from Terex remains the same as the TA40 it replaces at 41.9 tons, and its Detroit Diesel Series 60, 14-liter engine produces the same power and torque as it has for the past three years. But the computer-controlled

components on the TA400 communicate via a CAN-bus network, a leading-edge electronic protocol that not only improves digital control performance but dramatically reduces the amount of wiring required in the truck. Terex says its unique four-bar trailing arm suspension allows operators to travel faster (top speed is 37.3 mph) over difficult terrain.

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Bomag

BMP 8500 multipurpose articulated compactor has dual exciters and directed centrifugal force and is powered by a 19.4-horsepower Kubota diesel. Two amplitudes may be selected for two output options: 8,000 and 16,000 pounds. Bomag's Ecomode system automatically idles the engine during pauses in compaction, and Intelligent Vibration Control helps achieve consistent results. Remote control is dual function, functioning with an umbilical cable or wireless radio control. Bolt-on drum extensions give two working widths: 24 and 33.5 inches.

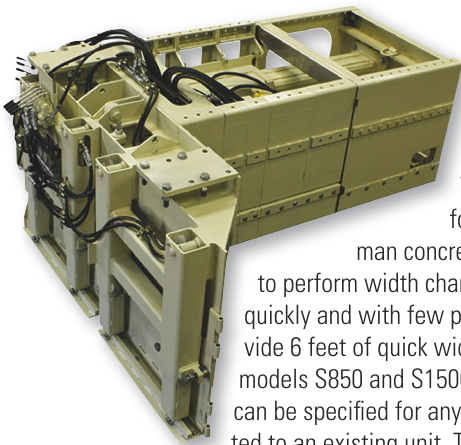
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MEC

MEC says Titan Boom 40-S combines three machines into one: a telehandler, with its 4,000-pound capacity; a scissor lift, with a work area of 22 feet x 90 inches; and a boom lift, thanks to a long reach and rotation capability. The lift offers two-wheel-steer, four-wheel-steer and crab-steer modes. Its platform rotates 180 degrees, and the unit can handle a material load of 3,000 pounds with up to four workers. Working height is 46 feet.

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Guntert & Zimmerman

Telescopic end sections for Guntert & Zimmerman concrete pavers allow users to perform width changes during a pour, quickly and with few personnel. Sections provide 6 feet of quick width change capability on models S850 and S1500 slipform pavers, and can be specified for any new paver or retrofitted to an existing unit. The change can be performed by one or two people in two hours, the company says.

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Sakai America

Sakai's 300 Series rollers include three double-drum steel and two steel/pneumatic-tire combinations, all with high frequencies of 4,000 vpm. They can roll faster while adhering to the industry standard of 10 to 12 impacts per foot. The SW300-1, SW320-1 and SW330-1 double-drum rollers have drum widths of 39, 47 and 51 inches, respectively. Sakai's TW320-1 and TW330-1 rollers feature 47- and 51-inch vibratory drums plus the kneading action of pneumatic tires on the rear for surface finishing. All five models are powered by 35-horsepower Kubota diesels and have hydrostatic drive on both ends of the machine.

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Market Watch



Gehl

Booms on models RS10-55 and RS12-42 telescopic handlers feature a welded box-section design. The RS10-55 has a rated lift capacity of 10,000 pounds and a maximum lift height of 55 feet; RS12-42 has a rated lift capacity of 12,000 pounds and a maximum lift height of 42 feet. Maximum operating capacity is achieved with standard outriggers on the RS10-55, and without the use of outriggers on the RS12-42. The Personnel Work Platform Safety System is available as an option.

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Hyundai

With an operating weight of 84,220 pounds, the R380LC-9 excavator comes with a 21-foot-4-inch boom, 10-foot-6-inch arm, and 1.89-cubic-yard bucket. The base machine price includes the bucket. Hyundai boasts numerous standard features for the 9 series, including heated air-ride suspension seat, skylight, CD player, radio with mp3 input and remotely mounted controls, adjustable sunshades, bright 7-inch color cluster display, control pattern selector valve and more.

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Terex Aerial Work Platforms

Four Genie telescopic boom models are said to offer greater platform capacity within a restricted outreach. Models S-60X, S-60XC, S-60 Trax, and S-80X have platform capacities up to 1,250 pounds, which is claimed to be the highest in the industry. Because of that capacity, the maximum number of occupants has increased to three. When the operator selects the appropriate platform capacity, outreach is automatically restricted. Terex says the unrestricted operating envelope will have the same 500-pound capacity and outreach as the existing machine.

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Caterpillar

A new control feature allows operators to run Cat C-Series skid steers, multi-terrain or compact-track loaders safely and productively. According to the company, Hystat Response Control System (HRCS) uses software that permits the loader's hydrostatic drive/steer system to be adjusted to one of three response rates: standard, intermediate or maximum. That rating determines how quickly the machine accelerates/decelerates and responds to steering commands.

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MZ Imer

Compact Excavator Sales, importer of IHI brand skid steers and mini excavators, now markets the MZ Imer site dumper in North America. The MZ 2000 HD carries 4,400 pounds of payload, heaped to 1.85 cubic yards, on a rigid front axle and oscillating rear. The four-wheel-drive dumper is powered by an air-cooled Kohler 25.6 horsepower diesel through a four-speed mechanical transmission. Total width is just 64 inches, with a 62-inch wheelbase.

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Wacker Neuson

Wacker Neuson calls its remote-controlled reversible plate compactor, model DPU 130, the most powerful plate on the market. The 2,612-pound plate produces 29,225 pounds of centrifugal force, and the maker says it "can easily do the work of any 7-ton roller." Two separate base plates, each driven by an independent, hydraulic exciter allow the unit to turn within its own diagonal width. A 33-horsepower Lombardini diesel drives the DPU 130, which offers an operating width of 47.2 inches.

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Steco

Steco is now building an aluminum version of the frameless Hauf dump trailer, available in 24- to 40-foot lengths. Customization options include varying widths and lengths; external or internal dump-cylinder mount; various tailgate options; and a variety of suspensions, wheel, and tire choices. Today's version of the venerable bathtub-style trailer design uses the same continuous weld of the U-formed side posts, the same smooth bed with easy-to-clean corners, and the same top-hinged tailgate with remote air-controlled open and lock as the original Hauf. It has been modernized and improved with up-to-date running gear.

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Union craftsmen build the electric-drive 930E at Komatsu's Peoria, Ill., facility.

MANUFACTURER MILESTONE

Komatsu Celebrates 930th 930 Truck

Komatsu America commemorated production of the 930th unit of its Ultra Class 930E Electric Drive Truck with a celebration at its Peoria, Ill., factory. Komatsu claims the 320-ton-capacity 930E, introduced in 1996, is the best selling ultra class mining truck in the world.

Collahuasi, a Chilean copper producer and 14-year Komatsu customer, will receive unit num-

ber 930 to add to its fleet of more than 40 trucks. Thirty percent of all 930s produced work in Chile.

The 930E is used in Komatsu's Autonomous Haulage System that allows the trucks to operate without drivers. It is available with a 2,700- or 3,500-hp diesel engine connected to an AC electric-drive system. The total weight carried by the six 12-foot-high tires is 1,106,670 pounds.

INDUSTRY NEWS

Highway Trust Fund Renewed in March

Following a week of uncertainty, the Senate approved a resumption of federal funding for highway projects. The 78-19 vote to inject \$10 billion into highway and safety programs came after Republican Sen. Jim Bunning dropped his opposition to the measure.

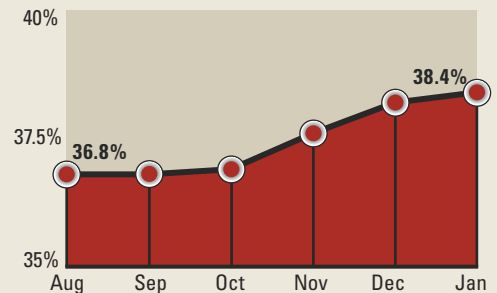
Bunning's decision to block the legislation had forced the U.S. Department of Transportation to furlough 2,000 workers without pay in early March, temporarily shutting down safety programs and construction projects across the country, according to the DOT.

"I am pleased that the Senate has acted to break its logjam and extend the Highway Trust Fund for another 30 days," Transportation Secretary Ray LaHood said in response to Senate's approval. "It also means that their important work getting the economy back on its feet, ensuring Americans' safety, and keeping critical construction projects moving will be able to continue."

USED EQUIPMENT Values Up Again

The Rouse Value Index

(Avg. orderly liquidation value as % of cost)



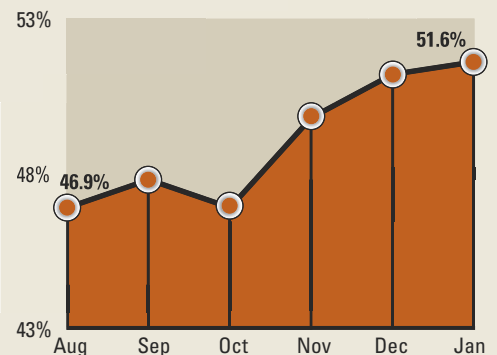
Note: Orderly liquidation value is expressed as a percentage of replacement cost (average cost paid for a new unit by large rental companies and dealers) for the average age of equipment within that category.

Includes 10 categories of equipment common to rental fleets.
Source: Rouse Asset Services

Orderly liquidation values continued to rebound, picking up 0.6 percent in January compared to December values. Aerial work platforms, high-reach forklifts, and excavators led the increases.

Compaction Equipment

(Avg. orderly liquidation value as % of cost)



Values of compaction equipment have rebounded strongly, up 12.1 percent since July. December values were up 0.7 percent, and average selling age is 37 months.

Managers Digest

For more headlines: ConstructionEquipment.com

TELEMATICS

AEMP Releases Telematics Standard

The Association of Equipment Management Professionals (AEMP) introduced to the industry a telematics data standard at its annual meeting last month in Dallas. The standard enables equipment managers to access data from various OEMs and download it into their fleet-management systems in a uniform format.

The group's telematics subcommittee is actively seeking industry feedback and has provided a forum through which end-users can comment on the standard at www.telematicstandard.org/forum.

AEMP partnered with John Deere, Caterpillar, Komatsu, Volvo Construc-

tion Equipment, Trimble, and McFadyen & Associates to develop the data standard. OEMs could begin supporting delivery of data using the standard format by October 2010.

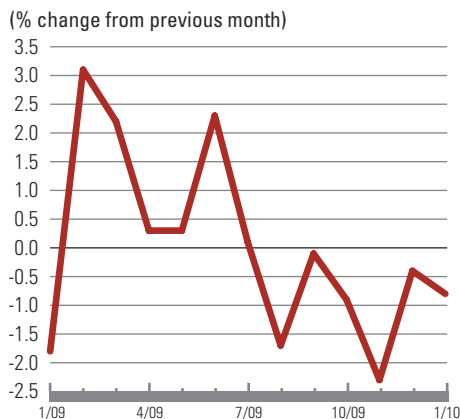
End-users will be able to transfer telematics data from a provider's server to their own systems. It facilitates programmatic retrieval of critical machine data for import into the end-user's database to simplify telematics implementation in a mixed-fleet environment.

The standard provides basic machine data, such as cumulative operating hours, cumulative miles traveled (for vehicles), cumulative fuel consumed (where supported), and current location in a common XML document. The provision of this basic information in a common format allows end-users to develop one API to parse the data and import it into their databases for use by the fleet-management application, allowing telematics data to feed the existing reports that equipment managers use to manage their fleets. The same API can be used to retrieve the data from each OEM (using unique authentication credentials and server information for each), greatly reducing implementation expense.

This standard is intended to complement existing telematics web portals rather than replace them. The data provided by the standard will allow users to automate once- or twice-daily updates to their fleet-level reports, and the data from each manufacturer will coexist with that from other providers and legacy machines whose data is still being entered manually. The telematics providers' Web portals will still provide the more detailed information required for deeper inquiries into a particular machine or group of machines.

STATUS & FORECAST PUBLIC CONSTRUCTION SPENDING

The recession has finally caught up with public construction spending after being delayed by the federal stimulus plan. State and local budgets are preserving jobs and services at the expense of capital investment in the face of the deepest collapse in tax receipts in more than fifty years. Fiscal year 2010-2011 budgets beginning in July will include further cutbacks. Congress will provide little, if any, additional stimulus funds.



Source: U.S. Department of Commerce

ASSOCIATION NEWS

Lee County Wins Fleet Masters

Lee County Fleet Management, led by Marilyn Rawlings, CEM, took home the 2010 Fleet Masters Award, presented March 15 at AEMP's Annual Management Conference in Dallas.

A team of 32 full-time employees is responsible for the cradle-to-grave management of 734 off-road units and 1,305 licensed units. Three of the five members of Lee County's leadership team hold Certified Equipment Manager certification from AEMP.

Networking with other organizations has enabled Lee County to implement valuable equipment maintenance and management

practices. Fleet leaders not only attend various conferences, but they have also been asked to speak at many of them. Fleet supervisors are encouraged to visit other governmental facilities, review procedures, and generate new procedures for Fleet Management.

Benchmarks provide Lee County with valuable information to compare public service against private business.

The Fleet Masters awards are sponsored by the AEMP Strategic Alliance Partners: Castrol, Caterpillar, *Construction Equipment*, International, IronPlanet, John Deere, Komatsu, Trimble and Volvo Construction Equipment.



Bill Prussman, CEM, and Marilyn Rawlings, CEM, accept the 2010 Fleet Masters Award.

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JOB SOLUTIONS

'Green' Machine Saves Contractor

Crown Corr of Gary, Ind., is known for its expertise in designing and installing custom metal panels, roofing, sunscreens and other systems in airports, stadiums, convention centers, and other large projects throughout the United States. With the contract to install the architectural metal skin panels on the buildings in the Roosevelt Connection, an 8-acre retail and residential project near downtown Chicago, Crown Corr was faced with a number of unique problems that they normally don't encounter with projects that are located in areas with a lot of open space.

Crown Corr could utilize swing stages to reach work areas, which would take time to set up, tear down, and move. Or it could seek a mobile work platform solution. Not only did the platform have to operate in an urban location where zero emissions were



JLG E600 articulating aerial work platform is electric drive, so diesel emissions are eliminated. The site also benefits from the unit's low noise emissions.

important, it had to have a 60-foot working height and a weight of less than 15,500 pounds so it could be operated from the second level retail plaza.

Crown Corr had worked with Illini HiReach, a rental firm in Lemont, Ill., in the past, and project superintendent Mel Lolkema felt that they would be able to supply the right machine for the job.

A call to Illini's Jerry Lodo-visi proved Lolkema right. JLG's E600 electric boom lift operates emission-free, has a 60-foot platform height, and weighs only 15,200 pounds. It also featured all-wheel drive, automatic traction control, oscillating axle, and nonmarking tires.

"We used these machines when we worked on the Indianapolis airport," said Lolkema. "They worked hard and lasted all day on a single charge. I told Illini to send me two of them."

After the machines were delivered and Crown Corr's trained operators were familiarized with the operating controls and safety features, they were put to work. Operators quickly realized the time and labor saving benefits of the JLG E600 boom lift over using swing stages. With the boom lift, they were able to drive the machine around the work-site, raise the platform to the overhead work area to perform their job, then lower the boom and drive the machine to the next work area. No time-consuming erecting, dismantling and repositioning swing stages.

Another feature that proved valuable on the jobsite was the E600's low noise emissions. "The JLG is so quiet that our crews can actually hear each other when they talk," Lolkema said. "On most jobsites, the gas- and diesel-powered machines are noisy."

RUNNING GREEN

CNH Leverages Competing Technologies

Case, New Holland and Kobelco have announced they will employ cooled exhaust gas recirculation (CEGR) and selective catalytic reduction (SCR) technologies across their product lines to meet Tier 4-emissions requirements beginning in 2011.

CNH will review each machine's engineering characteristics, application requirements, and operating costs to determine whether SCR or CEGR is the appropriate solution for that model.

"The challenge in trying to meet Tier 4 standards — interim and final — is that the CEGR technology that reduces nitrogen oxides increases particulate-matter levels, while the SCR technology that reduces particulate-matter levels increases nitrogen-oxides levels," Case says.

As a result, Case plans to supplement its CEGR-based machines with an after-treatment exhaust filter system, and its SCR-based equipment with a diesel exhaust fluid additive.

MANUFACTURER NEWS

Terex Divests Power Buggies and Gen Sets

Terex has sold its power buggy and generator lines and exited those markets. Power buggies go to Indy Equipment, an Independence, Ohio, distributor. Terex only had two models, one with a capacity of 16 cubic feet, the other with 21 cubic feet. Indy will take responsibility for parts and warranty support effective Feb. 15.

The generator line has been sold to Cummins Power Generation. The line of heavy-duty generators runs from 30 KVA to 360 KVA. Cummins will immediately take over warranty support for Cummins branded units, and Terex will continue to handle warranty on Terex units through the end of the year. Terex will continue parts support for 180 days from the date of sale, after which Cummins will assume parts support ownership.

Brad Allen, global general manager for scissors, portables and light towers for Terex Aerial Work Platforms, the division responsible for the two lines, said the decision was part of Terex's strategy to focus on "core aerial competencies."

"At this point in time, it makes sense for Terex AWP to focus on our core products, such as Genie aerial lifts, tele-



Terex will continue parts support for Terex-branded generators for 180 days from the date of sale.

handlers and light towers," Allen said. "The Terex line of generators offers Cummins an opportunity to vertically integrate and manufacture the same high-quality generators Terex has been private labeling for them during the past several years."

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Excavator Operators Raise the Bar on Site

With an entire crew watching this key producer, show them how to deliver quality work safely with attention to detail

Hydraulic-excavator operators have a unique opportunity to set an example for safe, productive work. On most jobsites, everybody is watching the excavator because of its key production role. There are hundreds of ways the excavator operator can demonstrate quality work, but these few apply to most of the versatile machine's production-leader jobs.

The most overlooked step in any construction work is the daily, or more frequent, inspection required to assess the condition of the site, equipment and materials. An excavator operator who makes a daily habit of walking his work zone to check for hazards and carefully inspects the machine to be sure it is ready to produce may be the most valuable teaching tool a project manager could ask for.

Not only should the operator be looking

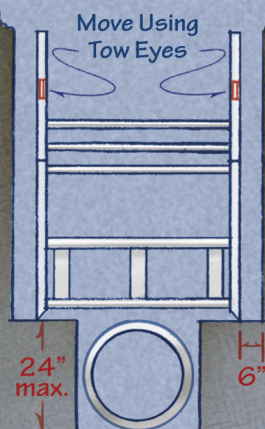
for overhead or ground-level hazards, but he should also make sure utilities have been marked by the local one-call service. Even where project foremen or other supervisors satisfy the Occupational Safety & Health Administration's "competent person" excavation-safety regulations (see 29 CFR 1926 Subpart P), excavator operators who also get competent-person training can dramatically improve a firm's excavation work.

OSHA's excavation regulation requires all excavations 5 feet deep or more to be shored or sloped. Digging less than 5 feet deep, a competent person must examine the excavation for potential cave-in hazards and determine if protection is needed.

Soil conditions must be analyzed at least daily – preferably with the first buckets of material that come out of the ground at the

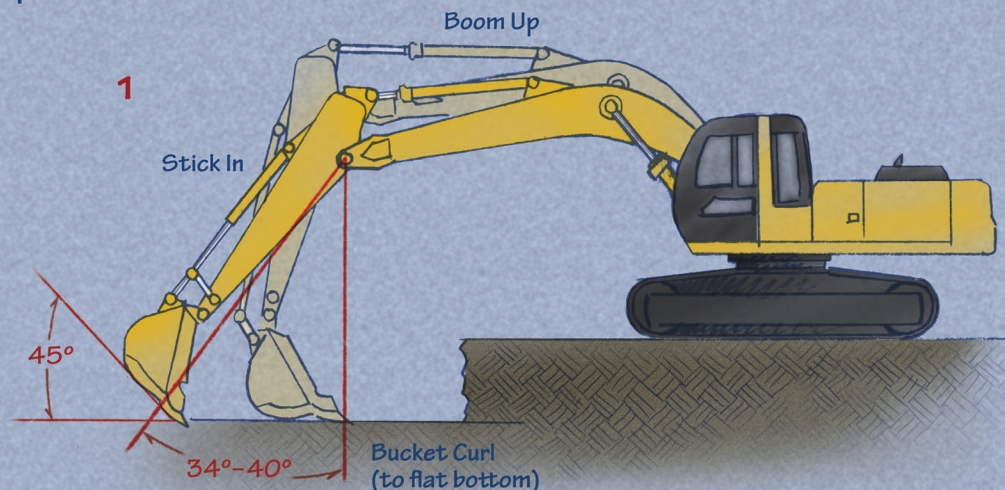
Work Safely in Trenches

Slope Determined by Soil Type

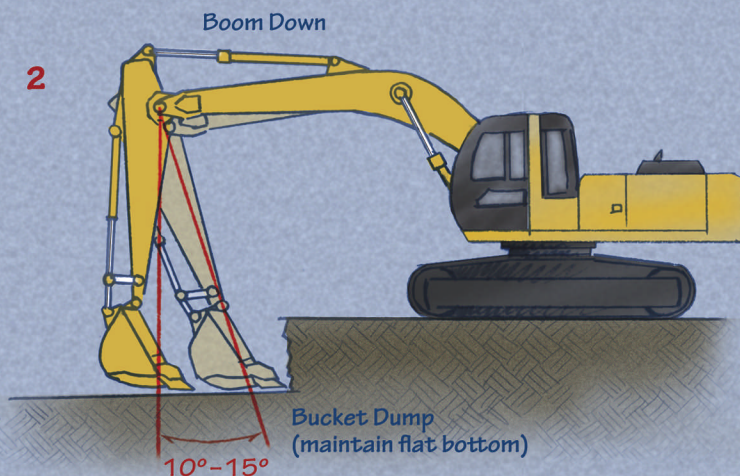


The federal excavation safety standard requires all excavations 5 feet or deeper to be shored or sloped. Shallower digs must also be protected if the crew's OSHA-qualified competent person perceives risk of a cave in. Trench boxes protect the widest range of trench dimensions from the broadest array of soil conditions. To prevent damaging the spreader bars, boxes should be moved forward with excavation by pulling them with chains or cables attached to towing eyes fixed to the box walls. Protect deeper trenches by sloping walls that extend above the box. Soil type determines the appropriate slope. Type A soils are safe when sloped at 3/4:1 (53 degrees), and Type B soils should be sloped at 1:1 (45 degrees). In Type C material, the maximum slope is 1-1/2:1.

Keep the Bottom Flat



Excavators are most powerful and productive working with the stick between the 8 o'clock and 5 o'clock positions (about 35 degrees beyond vertical to 10 degrees before vertical) because that's the section of the hydraulic cylinder stroke that generates the most power. There is less digging power when the cylinder is nearing its fully extended or fully retracted position. Exploit this design strength by penetrating quickly with the bucket floor at a 45-degree angle and closing the bucket to bring its bottom parallel to the desired grade. To keep the bottom of the excavation flat, boom up and close the bucket slightly as the stick works toward you. As it passes 6 o'clock (vertical), begin to boom down and open the bucket slightly to maintain the depth of cut.



start of the day – and trench protection adjusted to accommodate soil changes.

“We really recommend that every excavator operator be trained (as a competent person),” says Greg Strudwick, principal of safety consultancy Greg Strudwick & Assoc. “That operator knows better than anyone else on the site what type of soil you’re working in. If he moves into an area that’s got water in it or that goes soft or whatever, he’s the one that will know if the shoring system that you’re using is not going to be adequate.”

Trench boxes should be moved carefully along with the progress of the excavation to prevent damage that might weaken the shields. Some manufacturers will tell you it is OK to drag them by hooking the top spreader bar with the excavator bucket, but when the box is configured to protect a particularly wide trench, the risk of bending that spreader and

diminishing box integrity increases. The best way to move a heavy shield is to tow it with cable or chain attached to pulling eyes fixed to the box walls. (More on excavation safety at <http://www.constructionequipment.com/article/CA6649995.html>)

The best operators know how to take advantage of an excavator’s design strengths. Working in an area known to be clear of underground utilities, they crank up the throttle to high idle and dig as quickly as possible until near finished grade. A few important refinements will speed cycle times.

The excavator boom and stick are most powerful and productive when the stick is working the 8- to 5-o’clock arc. The 8-to-5 motion maximizes the machines’ hydraulic power because the middle of the stick cylinder’s stroke generates the most mechanical advantage. There is less digging power when

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the cylinder is nearing its fully extended or fully retracted positions.

When hogging out material, make each cut deep enough to completely fill the bucket by the time the stick reaches the vertical position (6 o'clock). Each cut should be fairly level, but don't bother trying to finish grade every cut. Boom up out of the cut and swing the minimum distance to dump. Only curl the bucket closed enough to prevent spillage.

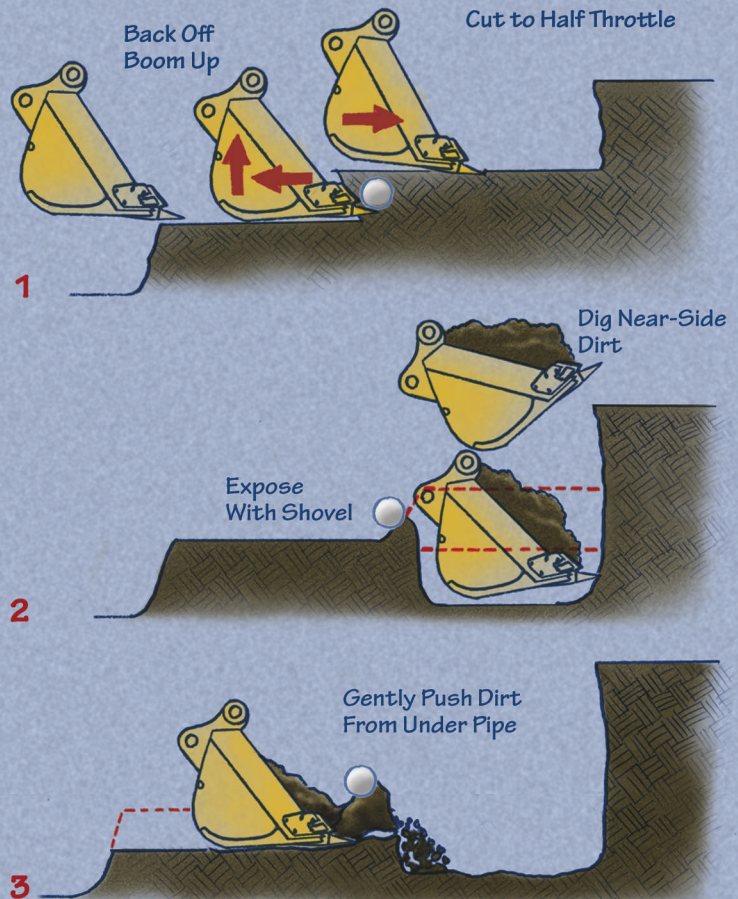
OSHA's excavation standard demands spoil be placed no closer than 2 feet from the edge of the trench. That prevents tripping hazards beside the trench, but spoil must be piled farther than 2 feet to avoid surcharging trench walls or banks and raising the cave-in risk.

VISTA Training's "Tips from the Pros: Crawler Excavator" video (www.vista-start-smart.com/html/tips_from_the_pros.html) recommends extending your spoil-casting range by using the stick to initiate the dumping process. Swing over the corner of one track, or perhaps a little more, and start by sticking out to get the bucket load's momentum moving away from the trench. Combine stick-out and bucket-dump to cast the material out of the bucket, away from the trench. Start the motion with the bucket close to the existing grade, and the bucket floor will push any existing spoil further away and prevent building a pile that could tumble back toward the hole. (More on setting up excavating operations at www.constructionequipment.com/article/CA471085.html)

Minor changes in working style maximize the excavator's sensitivity when unmarked utilities could be present (any time you're working in developed areas) or when cutting finished grade. Throttle down to a manageable speed or use the fine-grade mode that some excavators offer. Taking longer, thinner slices improves the ability to feel obstructions such as buried utilities.

Stretch the shallower cuts slightly to fill the bucket as the stick comes in past the 6 o'clock position. You still want to work in the 8-to-5 zone, where the hydraulics are not only strongest but provide the most feedback to the control sticks. If you sense suspicious changes in the material as you dig – abrupt variations

Exposing Buried Utilities



Watch for variations in the soil such as old backfill, gravel, or changes in material density. When you sense changes, slow down and proceed very carefully. Long, shallow slicing cuts improve the ability to feel obstructions such as buried utilities through the excavator controls. 1) When the bucket makes contact with something, back it off until you're sure the teeth are clear. Boom up out of the cut (booming up is more sensitive to tooth contact than bucket curl). 2) Uncover the obstruction with a shovel. If it is a pipe or other utility, use the shovel to make sure it is visible from the operator's seat. Excavate near-side material to below the level of the pipe. 3) Carefully push spoil under the pipe to free it from the surrounding material.

in the soil, old backfill, gravel, or sudden density variation – forget about production for a moment and check out the situation carefully.

When the bucket makes contact with an unknown object, back it off in the direction from which it approached the obstacle. Make sure the teeth are clear and boom up out of the cut. Gary Ober in his book "Operating Techniques for the Tractor Loader Backhoe"

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(<http://equiptrain.com/tlbbook.htm>) recommends checking out the obstruction with a shovel. Expose the pipe or other utility using the shovel so it is visible from the operator's seat, then resume excavating on the near side of the pipe. When you're below the level of the pipe, turn to the far side. Ober says you can carefully push spoil from under the pipe to free it from the surrounding material.

The challenge of maintaining a grade in a flat-bottomed trench with a bucket naturally swinging through the circular arc is mastered with practiced multi-function work.

Start at the 8 o'clock position with the bucket at about a 45-degree angle to the surface and curl the bucket closed as you stick in to a shallow cut with the bucket floor flat. The only way to maintain the depth of cut as the stick swings in toward 6 o'clock is to boom up slightly. You may have to close the bucket slightly as well to keep the floor flat.

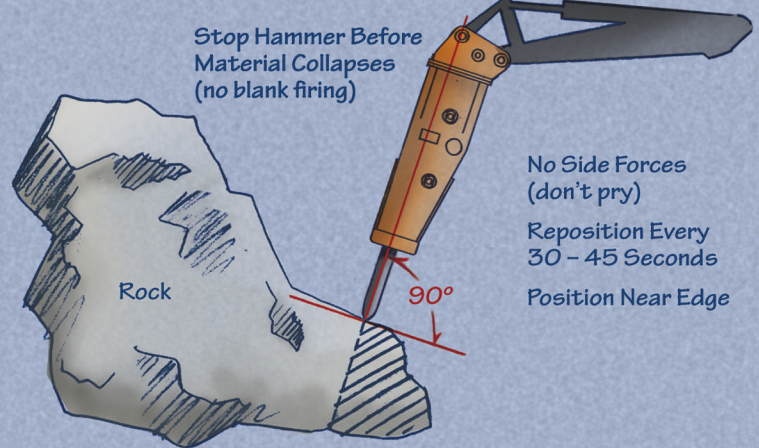
As the bucket passes the 6 o'clock position, the stick's arc will naturally draw the bucket up. To maintain the grade you will have to boom down and open, or dump, the bucket slightly. It is a matter of some finesse and timing, which comes with attention to detail in practice.

Excavators transcend digging tasks when they are teamed with various attachments. The ubiquitous hydraulic hammer is one whose performance can vary quite broadly depending on operator skill. Applying a few basic concepts improves breaker results.

Position the tool at right angles to the surface to be broken, even if the surface is not horizontal, and apply down pressure. If the tool skips around on the rock when it is activated, there's not enough down pressure and the hammer is absorbing too much of the shock of the piston impacts. You can over-do down pressure, though. You want just enough pressure, applied straight down through the hammer with no bending force, to break the material; not nearly enough to lift the near edge of the machine.

Break small pieces from the edges of big rocks or other hunks of material, rather than attacking them in the middle. Reposition the tool frequently. Overworking one spot can create


Break Rocks, Not Tools



Hydraulic hammers are designed to fire against resistance, but directing their power to break rock without damaging the tool takes some finesse. Always position the tool perpendicular to the work surface to keep the hammer blow from bending the tool. Break small pieces from the edges of big rocks, rather than attacking the middle. Apply enough down pressure on the hammer to keep the tool from dancing on the rock, but not enough to lift the excavator. Reposition the tool about every 30 seconds. Overworking one spot can allow stone powder to build up under the tool and dampen the blow. Quickly turn the hammer off to avoid blank firing when the material cracks through. Without resistance, the piston, tool retainer, tie rods, and chuck housing can be damaged.

a cushion of stone powder under the tool that will dampen the hammer blow. Working against this cushion can overheat the hammer.

When the material cracks through, quickly turn off the hammer to avoid blank firing. Without resistance, the piston, tool retainer, tie rods, and chuck housing can be damaged. (More at www.vista-start-smart.com/html/breaker.htm)

Focusing on perfecting these skills is just a start in making a site leader out of an average operator. The excavator's high profile on most jobsites makes pursuing operating excellence an investment that promises dividends in everybody's work. 

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Concrete Show Launches Recession-Defying Innovations

Wirtgen's first U.S. slipformer and Wacker's electronic-joystick trowel epitomize OEMs taking risks to entice buyers



Bobcat

Three new compact excavators have been added to Bobcat's M-Series lineup: E42, E45 and E50. The E42 has an operating weight of 9,246 pounds and is powered by a 41.8-horsepower liquid-cooled diesel. The E45 is a zero-tail-swing model, weighs 10,077 pounds, and has the same 41.8-horsepower engine. The minimal-tail swing E50 weighs 10,677 pounds and has a 48.8-horsepower engine. All of the new models are available with a long-arm option that maximizes dig depth, reach and dump-height clearance.

Wacker Neuson

Wacker Neuson says electronic-joystick controls make the 48-inch CRT 48-35L-PS ride-on trowel handle and perform like a lighter weight finishing machine, dramatically easing operator fatigue. A steering-mode switch allows operators to select the response of the joysticks to satisfy their preferences and concrete conditions. It is powered by a 35-horsepower Lombardini diesel engine and offers high speed range of 25 to 165 rpm.



Wirtgen

Wirtgen's acquisition of Belgian slipform-paver maker SGME has finally produced a North American curb-and-gutter machine, the SP15, a three-track machine that wields an offset mold to the right or left side. The 27,500-pound slipformer handles barrier-wall molds up to 4 feet 3 inches high and offset paving widths up to 6 feet. The three-way adjustable trimmer can cut up to 48 inches wide. The SP15 is powered by a 123-horsepower Deutz four-cylinder diesel. It is expected to sell for about \$220,000.

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International

International improved its severe-service Paystar by making electronic stability control available on all models; offering factory-installed 8,000-, 13,200- and 20,000-pound lift axles; and making 10 1/4- by 3/8-inch frame rails standard on the 5900 SBA (set-back axle). The MaxxForce 11 and 13 diesel engines will be available in the coming weeks, and the 15-liter will be available late in 2010. International's 2010 MaxxForce Advanced EGR (exhaust gas recirculation) engines offer the only diesel truck power in the industry that doesn't require SCR (selective catalytic reduction) and associated urea service.



HEM

The HEM Magna Cut is a unique solution to the challenge of sawing longitudinal expansion joints into continuous concrete slabs before they crack. To avoid marring the green concrete, only the blade touches the surface. Crawler tracks straddle slabs as wide as 50 feet, and the saw suspended from a beam moves across it at the operator's control. The unit can handle crowned slabs and curbs, skewed joints and full-depth cuts.

Kubota

Kubota introduces the five-ton-class KX057-4 conventional-tail-swing mini excavator, offering an optional hydraulic float angle blade with 25-degree pivot angle. The Kubota diesel delivers 47.6 gross horsepower, and auto idle conserves fuel and reduces noise. Kubota says its new three-pump load-sensing hydraulic system combines closed and open center controls for "optimum oil flow to each cylinder for smooth multi-function operation and enhanced fuel economy." Full pilot-hydraulic controls and high-back suspension seat help reduce operator fatigue. Kubota's own theft-prevention system is standard equipment.



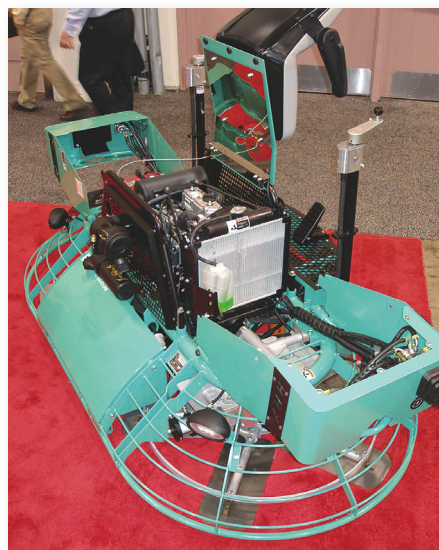
Wakeham

The Wakeham Skid Steer Trimmer uses direct hydrostatic drive to trim 88 inches wide. The 2,000-pound attachment will work on a 6,800-pound skid steer of 65 horsepower with high-flow hydraulics, but its designer says the machine is most at home on a heavier compact

track loader. The hydraulic system relies on Vickers valves and an Eaton motor. The Skid Steer Trimmer costs about \$35,000 when it is outfitted with a Leica Power Grade Control system with sonic elevation sensor to control both elevation and grade.

Multiquip

Multiquip patented the "swing-away upper frame design" that exposes the engine and other internals of the new HHX ride-on trowel for maintenance and repair. The 48-inch trowel uses helical gearboxes and a continuously variable transmission for smooth performance and proportional hydraulic steering reduces operator lever effort. A turbocharged option takes the standard 31-horsepower unit up to 34 horsepower.





Doosan Infracore Portable Power

Ingersoll Rand C185 portable air compressor produces 185 cfm at 100 psi. Powered by a 49-horsepower Kubota diesel, the unit weighs 1,825 pounds and measures 66 inches wide and 58 inches tall. Two service air ports allow for use of multiple tools. Single-piece canopy is lockable and lightweight. Design enables cool air to enter the rear and cool internal components. Curbside controls and service valves keep operators away from traffic.

Sany

Sany announced three concrete pumps not only new to North America, but assembled in the company's Georgian facility. The five-section boom on the 46-meter pump truck shown here reaches just short of 151 vertical feet and 134 feet 6 inches horizontally. The pump can push 222 cubic feet of concrete per hour. Sany claims the X-shaped outrigger deployment accommodates congested sites better and it is capable of one-sided support. Sany's 45-meter pump transports at just over 41 feet and weighs 76,650 pounds.



Xtreme

Xtreme's 48,000-pound XR3040 telehandler can lift its maximum capacity, 30,000 pounds, to 25 feet high. Maximum lift height is 34 feet. Rear axle stabilization and center-line-mounted engine and transmission give the machine a stable base. A Perkins diesel delivers 130 horsepower through Dana transmission and Kessler axles. Xtreme warrants its roller booms for five years.



Husqvarna

The DXR 250 demolition robot has an extra-low-weight fixed arm to ensure stability at the end of its 15-foot reach, according to Husqvarna. Low-profile body gives the operator a clear line of sight, and dozer blades make the chassis shorter for maneuvering in restricted spaces. The unit weighs 3,594 pounds with a 25-horsepower engine; a 30-horsepower unit is optional. Remote control has a 3.5-inch display and can be operated with one hand.



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Smart, Smooth UltraShift Plus Made for Off-Road

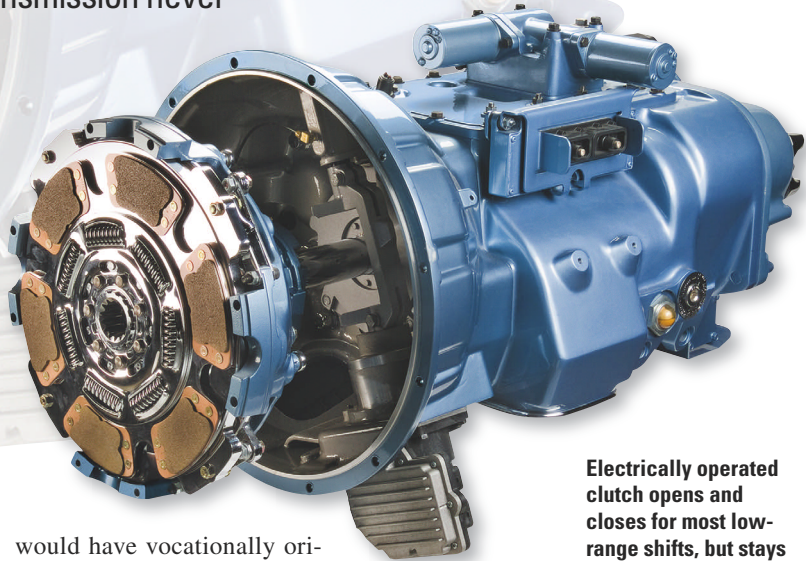
Eaton's latest automated mechanical transmission never faltered in the dirt or on the pavement

Eaton Corp. has been working on automated mechanical transmissions for more than 30 years, starting in the 1970s when the U.S. Army wanted an alternative to the synchromesh manuals on its medium- and heavy duty trucks. Eaton briefly marketed a hydraulically operated AMT in the late '80s but withdrew it when it proved troublesome.

Almost a decade later came the AutoShift, with electronic controls that "talked" to engine controls; it changed gears automatically but required the driver to use a manual clutch while stopping or starting out from a stand-still. A few more years of development yielded the UltraShift, with an automated clutch and transmission both; it's called a "two-pedal" product because the driver operates the accelerator and brake pedals but no clutch pedal. It, too, had serious glitches, which engineers gradually eliminated but which caused initially enthusiastic fleet people to back away.

The UltraShift is in its third generation and works pretty well, according to fleet managers. However, the 10-, 13- and 18-speed AMTs are strictly on-road products, and Eaton has not officially approved it for on/off-road use, even if some can be found in such work. Instead Eaton engineers worked on a new series of AMTs, and now they're here, ready for consideration by people who run dumpers, mixers and other kinds of vocational vehicles. In short, AMTs ably take over much of the work of operating a truck and let drivers concentrate on traffic and delivering their loads.

Eaton calls this new product the UltraShift Plus, which is a good name because it adds useful features and capabilities to the earlier product's attributes, making the -Plus work as well in the dirt as on the pavement. When I heard that Eaton



would have vocationally oriented AMTs I thought they'd include torque converters, but no – they have dry clutches.

UltraShift Plus comprises six models, three still for the highway and three for on/off-road use. The latter are designated Vocational Construction Series (VCS), Vocational Multipurpose Series (VMS), and Vocational Extreme Performance (VXP). They differ in number of ratios and intended chassis weights, but all are heavy-duty models which work very well. I drove several models in test vehicles at Eaton's proving grounds near Marshall, Mich., which includes a long paved oval track and tarmac area, steep test grades, and rough off-road trails.

Several weeks before an official product announcement late last summer, Eaton invited a handful of truck writers to Marshall for a preview. I returned about a month later for another hands-on experience. At the time, representatives said limited production would occur in late 2009 and full production would commence right about now, when you read this. Most truck builders should be offer-

Electrically operated clutch opens and closes for most low-range shifts, but stays engaged for many float-shifts in the gearbox's high range. New, more capable electronics, shift actuators and load sensing are among UltraShift Plus's features.

Hands-On Trucking



International PayStar mixer had a 9-speed UltraShift Plus and the Western Star 4900 tractor had an 18-speed version. Three vocational models have high ratio coverage and torque capacities of 1,450 to 2,250 pounds-feet.

ing the various UltraShift Plus versions, and dealer sales people should have information.

What I found was that UltraShift Plus will operate much more smoothly and smartly than most drivers can do with a manual transmission, and as good as the very best drivers. I concentrated on a pair of Kenworth T800 dump trucks that were identical in their specifications, which included Cat C15-475 engines, except for their transmissions: One had an 18-speed VXP and the other an Allison 6-speed 4500RDS. Both were loaded to about 65,000 pounds gross, according to Michael Holahan, program manager for the UltraShift Plus, who was my guide.

In my runs, the Allison of course worked smoothly and competently, and so did the Eaton VMS. Its clutch always engaged nicely, and the gearbox always shifted up and down quickly and smoothly. I could set the selector in Manual and tell the tranny what to do, but learned pretty soon that it was better to put it in Drive and leave it alone.

Usually the VMS skipped gears, and it worked so well with the engine that the staggered progressions were undetectable unless I listened to the revs or watched the LED gear indicator on the dash. For instance, it'd start out in 3rd, shift to 5th, then 8th, then 10th, and then further upward as we approached highway speeds. Or it'd start in 2nd, go to 5th, 7th and so on. It depended on whether we were

on the level or an upgrade, and how hard I pressed on the accelerator.

On steep upgrades it seldom needed 1st gear to start out and could still skip a gear while accelerating. As some point the controls sensed that engine's output couldn't move us any faster, so would hang in an appropriate gear until we crested the top. It never missed a shift or chose the wrong gear for a situation. And it never ground a gear – something I couldn't say if I'd been operating a manual gearbox.

Engine revs seldom climbed toward redline and instead tended to stay below 1,800 or so, where fuel economy would be better. A light foot, of course, allowed upshifts even sooner in the rev range and made skip-shifting more appropriate. Downshifts accompanied any slowing of road speed, but again were smooth and almost imperceptible, except that when I got back on the accelerator pedal, yes, the -Plus's brains has chosen the correct gear and off we could go.

The -Plus is what earlier Ultra- and AutoShifts should've been, even if they were genuine work relievers compared to pure "crashboxes." Gone are the clunky shifts and occasional confusion in the brains of the earlier products. The UltraShift Plus family is fully functional, and might well be as good as, or better than, the previous AMT smoothie, Volvo's I-Shift (Hands-On Trucking, CE April '09).

Eaton's -Plus helped the truck slow as well as go. Holahan was proud of how it worked with the Cat's Jake Brake, enabling strong retarding power down to about 3 mph with the selector in Drive. He pointed out that the Allison automatic in the other KW dumper released the Jake at 10 mph, and then the truck virtually free-wheeled downhill. Pulling the Allison into Manual and shifting it into 1st keeps the Jake working down to crawling speed, too, I told him on my second visit. But he noted that the UltraShift Plus also operates the Jake to less than 1 mph in Reverse, while the Allison doesn't work the Jake at all.

The -Plus has a hill-holder function that's clever and convenient on upgrades. Once the driver stops the truck with the service brakes and releases the brake pedal, the transmission controls work through the anti-lock braking system to keep the




Cat-powered Kenworth T800 dumper was easy to drive on rough trails with its Eaton 11-speed Vocational Multipurpose Series automated mechanical transmission. So was a similar KW with an Allison 4500RDS, but the Eaton should cost less and might be better with fuel.

brakes applied enough to prevent the truck from moving backwards; it'll hold the brakes for exactly three seconds, and in that time the driver should step on the accelerator, which releases the brakes as the truck begins moving forward. What if he doesn't? In this test I waited while Holahan counted "one, two, three," and on cue the holder released and the truck began drifting backwards; then I got on the gas, the clutch engaged smoothly and up we went. That's otherwise tricky to do without a lot of driving experience.

Such excellent behavior is the result of enhanced software, a newly designed electronically controlled clutch, load sensors, and refined actuators on the gearbox – something I can say in one sentence but that took three years of work by Eaton engineers and technicians and millions of miles of testing. Holahan said people at test fleets really like the products and their drivers love them. What I liked, aside from their smooth operation, was the UltraShift Plus's feeling of mechanical efficiency – engine power and torque coursing through solid steel gears instead of a torque-converter automatic's hydraulic mush. This should also mean better

fuel economy, Eaton says.

Because Eaton compared its UltraShift Plus to Allison's automatic, so am I. The new -Plus is almost as easy to drive as the Allison, and I say "almost" because the Eaton has a clutch which can still be abused unless the driver is aware of it and cares enough to protect it. Having some experience driving a manual transmission would help. Both products have built-in safeguards to prevent intentional abuse. An Allison, though, can be given to a complete beginner with no worries, except that he or she must understand the possible dangers of driving a big and heavy truck.

So, there you go. Eaton people think their new UltraShift Plus series will accelerate the trend toward automated transmissions, and they're probably right. It should be priced less than a similarly rated Allison, and is so capable that you might well become part of that trend. 



Dump truck had a paddle-style shift selector, which can be operated by feel; tranny will also work with a keypad type. Either way, it's usually best to put it in D-for-drive and leave it alone.

Buying File: Asphalt Pavers

By WALT MOORE, Contributing Editor

Competent Commercial Pavers Await Recovery

An unsettled economy has taken its toll on the small-asphalt-paver market, but manufacturers still offer buyers wide choices and efficient features

Asphalt pavers with operating weights between 10,000 and 19,000 pounds are most in their element when paving parking lots, driveways, tennis courts and recreational paths. That's why they're typically called "commercial" pavers. We hasten to add, however, that some machines in this size class are quite capable of also paving city streets and county roads. And, although the market for these versatile machines has diminished in recent years, today's buyers nonetheless still have a relatively broad selection of models — many with features perhaps unexpected in small machines.

The market for commercial pavers has, in fact, dropped by some 50 percent from a high-water sales mark of about 1,800 units in 2005, primarily because the construction of new houses has slowed so drastically in the past two years.

"The market is difficult," says John Hood, Bomag's manager of product development and sales for milling and paving products. "These machines are tied almost directly to housing and commercial development, and while they're also used by municipalities and counties for roads, the bulk of their work is subdivision streets, large parking lots and driveways."

The diminished market for pavers in the 10,000- to 19,000-pound category is being sustained in the present lagging economy, says Hood, by contractors who still have work but have pushed their machines as far as they dare. Lack of work also means that many machines are simply lasting longer and thus interrupting the contractor's normal replacement cycle, which typically ranges from about five to seven years.

Asphalt pavers toward the top end of the 10,000- to 19,000-pound weight class, such as this Bomag BF815 at 15,950 pounds, are capable of paving city streets and secondary roads. The BF815 is available with Topcon's System-Five Screed Automation, which uses non-contacting sonic sensors to allow paving without skis or string lines, while providing joint-matching capability without surface contact.





Small asphalt pavers with operating weights between 10,000 and 19,000 pounds, such as the Vogele Super 700, excel at jobs requiring competent placement of hot mix in confined spaces.

Not all doom and gloom

Despite the down market, manufacturers of small pavers have nonetheless continued with product development and refinement. For example, according to Brodie Hutchins, general manger of Vogele America, fairly recent innovations in the small-paver industry include electrically heated screeds and the integration of grade and slope controls.

Bomag's Hood adds to the list, saying that a common technical advance in commercial pavers is the replacement of manual control systems with electric-over-hydraulic systems. The overall result, he says, is ease of operation and more precise placement of material.

In some instances, says Hutchins, paver models in the 10,000- to 19,000-pound category have features that make them "highway-class pavers in a versatile commercial package." He uses the Vogele Super 700 to illustrate:

"The Super 700's conveyor system can be rebuilt, the frame is robust, and the feed system is a highway-class design — even though the machine is less than 4 feet wide. The electrically heated screed extends hydraulically to nearly 7 feet, and with bolt-on

extensions, to more than 10 feet. And it's versatile enough to pave down to 20 inches with optional cut-off shoes."

At the large end of the 10,000- to 19,000-pound class are pavers capable of doing not only commercial work, but also roadway paving.

The 80-horsepower Mauldin 1750-C, for example, weighing 15,700 pounds, can place mats to 16 feet wide. The machine features an ultrasonic material-feed system and can adjust the attack angle on screed extensions. Larger Lee-Boy models, such as the 8515 and 8510, also are street-capable and feature 87-horsepower Kubota diesel engines, sonic auger controls, high/low deck configuration and electric-screed options.

Also in this larger class are the Bomag

Track-Mounted Asphalt Pavers

Size (lb.)	List Price	Hourly Rate
to 18,999	\$89,822*	\$55.51*
19,000 - 24,999	\$194,293	\$109.43
25,000 - 28,999	\$324,255	\$176.67
29,000 - 34,999	\$412,039	\$228.18
35,000 & more	\$512,809	\$267.70

Unit prices: Diesel: \$2.87, Mechanic's wage: \$47.76, Cost of Money: 3.250%
 * Average for machines in 10,000- to 19,000-pound range; list prices may vary from \$55,000 to \$170,000

Wheel-Mounted Asphalt Pavers

Size (lb.)	List price	Hourly Rate
to 18,999	\$46,214	\$54.61
19,000 - 24,999	\$300,000	\$149.94
25,000 - 28,999	\$321,354	\$166.48
29,000 - 34,999	\$328,578	\$184.96
35,000 & more	\$410,819	\$223.38

Unit prices: Diesel: \$2.87, Mechanic's wage: \$47.76, Cost of Money: 3.250%

Buying File: Asphalt Pavers

Asphalt Pavers: 10,000-19,000 pounds

Mfr./Model	Operating Weight (lb.)	Horsepower	Feed Type*	Max. Pave Width
Bomag 3313	10,000	50	G	13' 0"
LeeBoy 1000F	10,000	37	G	13' 0"
Puckett 580	10,000	38	G	13' 0"
Gehl 1648	10,600	48	G	13' 0"
Vogele Super 700	11,700	60	C	10' 6"
LeeBoy 5000	12,000	37	C	9' 0"
LeeBoy 7000	12,000	56	C	13' 0"
Mauldin 1500	12,300	50	C	13' 0"
Mauldin 1550-C	12,500	60	C	13' 0"
Bomag 4413	15,500	60	C	13' 0"
Bomag BF814	15,700	85	C	14' 0"
LeeBoy 8500	15,700	74	C	15' 0"
Mauldin 1750-C	15,700	80	C	16' 0"
LeeBoy 8510	15,900	87	C	15' 0"
Bomag BF815	15,950	85	C	15' 0"
LeeBoy 8515	17,500	87	C	15' 0"
Carlson CP-90	18,800	84	C	15' 0"

* (G) Gravity (C) Conveyor

BF814 and BF815, capable of paving widths of 14 and 15 feet, respectively. The machines feature load-sensing hydraulic systems and 85-horsepower Cummins diesel engines.

Smaller, but quite capable

Obviously not all commercial paving contractors need the capability of these larger units. For those involved primarily in basic paving and patching work — and interested in keeping equipment costs and operating expenses to a minimum — smaller, highly maneuverable machines are the most economical choices.

These machines may have a conveyor-type material-feed system or, as with machines such as Gehl's 1648 Power Box, the Bomag 3313, Leeboy 1000F and the Puckett 580, a gravity-type material-feed system. In either instance, conveyor- or gravity-feed, manufacturers have not neglected product refinement.

For instance, the Puckett 580, introduced two years ago and weighing just 10,000 pounds, has hydraulically folding hopper wings, electric-over-hydraulic switches for the augers, an 8-foot screed that hydraulically extends to 13 feet, and a 38-horsepower

Kubota diesel engine.

"We want the machine to be easy to use," says Paul Puckett, a principal in the company, "but we also recognize that we must keep the price down to appeal to cost-conscious buyers. Our machines don't have many bells and whistles [the screed is exhaust-heated, for example, with a propane option], but we invest in features to make them reliable and operator friendly.


Looking ahead

A big technical challenge ahead for small commercial pavers, says Bomag's Hood, is bringing them into compliance with Tier IV emissions regulations. The size constraints of these machines, he says, makes installing diesel particulate filters and NOx catalysts extremely challenging — plus, the technology adds cost to an already-price-sensitive machine.

For contractors using these machines, the challenge ahead is finding work and, says Puckett, controlling overhead costs. According to Hood, the economy is forcing the more enterprising of these contractors to consider new possibilities.

"We see a growing number of small commercial paving contractors buying small milling machines to do maintenance work to sustain themselves or even to grow," says Hood. "They're also branching off into other areas like seal coating and full-blown patch work. They're looking to expand their range of services and their customer base."

John Rau, product training specialist for Gehl, also sees small contractors pushing their businesses in new directions. He cites one Gehl paver customer who recently purchased a cold planer and a powered hopper broom as attachments for his skid-steer loader, with the intent of taking on serious patching work.

The niche of small asphalt pavers, says Hood, is not production, as in placing tons and tons of material per hour, but is rather the competent placement of asphalt in a highly maneuverable fashion. Today's small pavers are still meeting that basic requirement, but are doing so more precisely and more economically than ever before. 

GEHL

Independent, Hydraulic Auger Extensions

Gehl's asphalt paver line includes two gravity-feed Power Box models, the 1448 Plus and 1648. Independent, hydraulically driven augers on the 1648's screed extensions are designed to push material to the ends of the screed extensions for a full, 13-foot paving width. The 10,000-pound 1648, with 48 net horsepower, features a 6-ton hopper, independent material-flow gates (hydraulically operated), vibratory screed (propane heated), dual controls, and single-lever crown/invert adjustment.

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CATERPILLAR

Optional Rubber Track

The six-model range of Cat asphalt pavers includes three tracked models and three wheeled models. Newest in the line are the AP500E (wheel) and AP555E (track), which have approximate operating weights of 34,000 and 36,000 pounds, respectively. Equipped with the Cat C4.4 ACERT diesel engine, these models feature a mix-delivery system that uses four individual pumps, allowing each conveyor and each auger to precisely control material flow to the screed. Cat pavers also feature dual, swing-out operator's stations, tilting consoles and low-profile cooling systems that provide good forward visibility. The optional Cat Mobil-trac crawler undercarriage uses a rubber belt (smooth or traction) that reportedly has a typical service life of 4,000 hours.

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BOMAG

Mainline Paver Performance

Although primarily intended for commercial paving jobs, says Bomag, models BF814 and BF815 offer mainline-paver performance and features. These 85-horsepower Cummins-powered models have operating weights of 15,700 and 15,950 pounds, and maximum paving widths of 14 and 15 feet, respectively. At the top of the Bomag line is the 20,500-pound BF6615 that features an electrically heated, vibratory screed and a 99-horsepower Cummins engine. At the smaller end of the range are the BF4413 and BF3313, the latter a gravity-feed model with a 6-ton hopper and dual operating stations.

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Gallery of Pavers



DYNAPAC U.S.A.

Built Specifically for North America

The new Dynapac asphalt-paver range for North America presently includes the tracked F1000T and the wheeled F1000W, with a standard paving width of 10 feet. The range will be expanded with two 8-foot machines, the tracked F800T and wheeled F800W. The new pavers feature heavy-duty welded frames, dual swing-out operator's stations, exceptionally low deck height, and hoppers formed from 0.75-inch material. An outboard auger drive and the conveyor design eliminate the auger-chain-drive box, thus minimizing center-line segregation. The current F1000 models use the Tier-III-compliant Cummins QSB-220 diesel engine, rated at 230 horsepower, and feature an integrated Sauer drive system.

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SALSCO

Mini Models: Track and Wheel

Salsco's mini-track paver, model 05013, weighs in at 3,060 pounds and can pave widths from 36 to 72 inches, and depths from 0.25 to 5 inches. The 05013, which uses a 10-horsepower diesel engine, rides on Bridgestone steel-reinforced rubber tracks and is capable of paving crowns and inverts. The Salsco mini-wheel paver, model 05004, is equipped with a 13-horsepower gas engine and provides the same paving widths and depths as its track counterpart.

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MAULDIN

Broad Product Line

The seven-model Mauldin product line ranges from the 7,800-pound 550E wheeled model to the 15,700-pound 1750-C, which features a two-speed polyurethane crawler-type track drive system and paves to widths of 16 feet. The 80-horsepower 1750-C features dual operator's stations with full controls, including automatic sonic feed control and a fully enclosed, sound-proof engine compartment. According to Mauldin, the 1750-C's "highway-class-technology" screed allows it to take on larger road-paving projects. The machine's versatile design, says the company, allows one-person operation.

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Gallery of Pavers



VT LEEBOY

Models from 10,000 to 34,000 Pounds

Newest in the VT LeeBoy asphalt-paver product line is the 34,000-pound wheeled model 9000, designed for high-production paving. The 9000 features dual, slide-out operator stations for enhanced visibility, 173-horsepower Cat diesel engine, and a choice of electrically or propane-heated screed. In addition to the 25,000-pound model 8816B, VT LeeBoy has six models with operating weights between 10,000 and 19,000 pounds, all featuring conveyor feed systems, except the gravity-feed 10,000-pound 1000F. Most models have an optional electrically heated screed.

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VOLVO

Patented Front-Wheel Suspension

Volvo Construction Equipment offers 14 asphalt-paver models (8 tracked, 6 wheeled) that build on the legacy of Blaw-Knox and ABG innovation. The Volvo PF6000-Series models feature sensor-control of augers and conveyors for precise material flow, and the track undercarriage of the PF6110 uses an oscillating tandem-bogie that results in optimal traction and balance. The Volvo PF6160 and PF6170 wheeled models use a patented front suspension designed to optimize traction. Model PF6170 features standard front-wheel assist, with four-wheel front assist available. The PF6000-Series machines are available with multiple screed options, including the new Ultimat 200, which provides paving widths from 10 to 20 feet.

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VOGELE AMERICA

"Clean-Sheet" Design For Vision Series

Vögele America's new Vision Series machines represent a totally new design for the veteran asphalt-paver manufacturer. On the design-feature list for the Vision Series is exceptional visibility, suppressed sound levels, direction of heat away from operator and crew, self-diagnostics for optimum availability, self-tensioning conveyors, independently operated hopper wings, easy-access clam-shell hood, and independent conveyor and auger drives that are reversible and eliminate flow gates. The wheeled Vision 5203-2 features three drive versions, including rear-wheel, optional front assist (two-wheel) and optional six-wheel drive.

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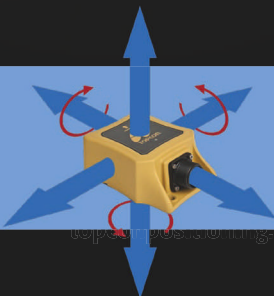


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Gallery of Pavers

TEREX

CR662RM Combines Material Transfer and Paving

The Terex asphalt-paver line includes 14 models that range in operating weight from 31,870 to 48,300 pounds. The line offers wheeled, steel-tracked and rubber-tracked models, as well as "Remix" models — and the CR662 RoadMix model that can be configured as either a stand-alone paver or an integrated paver/material-transfer vehicle. Contractors making the investment in a material-transfer vehicle are looking for maximum return on investment, says the company, and the RoadMix delivers substantially increased utilization rates with its ability to serve two basic functions.

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PUCKETT

Economical Exhaust-Heated Screeds Come Standard

Puckett Manufacturing's three gravity-feed models — 540, 560 and 580 — have operating weights of 7,000, 8,250 and 10,000 pounds and standard paving widths of 8, 9 and 8 feet, respectively. All feature exhaust-heated screeds as standard equipment, but propane heating is optional. The 580, with an operating width of 102 inches, has a 6.5-ton hopper and can pave down to widths of 24 inches with appropriate cut-off plates. Dual controls and automatic track tensioning are standard features.

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CARLSON

Electrically Heated Screed

Acquired by Astec Industries in 2001, Carlson's expanded product line includes the CP-90 asphalt paver; a windrow-pick-up machine; and two new types of screed packages, the Easy Screed III and IV. The CP-90 has a standard paving width of 8 feet, but provides paving widths from 4 to 15 feet. The 18,800-pound CP-90 uses a Cat 3.4 diesel engine rated at 84 horsepower. The machine incorporates heavy-duty auger and conveyor components with replaceable floor plates. The CP-90's screed is electrically heated via an on-board generator.

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ROADTEC

Thin-Lift Capability

Two tracked models (RP-175 and RP-195) and two wheeled models (RP-170 and RP-190) form the basic Roadtec asphalt-paver line. These models, with standard 8-foot (RP-170/175) and 10-foot (RP190/195) screeds, are joined by the SP-200 Spray Paver. The SP-200 works both as a conventional paver and as an installation machine for NovaChip or ultra-thin wearing courses. According to Roadtec, the machine sprays tack via a computer-controlled distribution bar just ahead of the auger, then applies hot-mix asphalt seconds later. Combining the spraying and lay-down functions, says the company, produces a high-quality mat with a strong bond between layers.

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By ANDREW BALTAZAR, Associate Editor

M Series 3 Breathes New Life into Case Backhoe Loaders

An updated set of controls, instrumentation and service features make the M Series 3 backhoe loaders more operator friendly

For nearly five years, the M Series 2 backhoe loaders served Case well. But the company's M Series 3 lineup has taken over with a myriad of improvements and new features.

Sold in five different versions – 580M, 580 Super M, 580 Super M Plus, 590 Super M, and 590 Super M Plus – the M Series 3 loaders come standard with Tier 3-compliant engines, power-assisted brakes, and Case's PCS Pro Control System, which helps beginner operators become more productive, Case says.

The five models also share serviceability features, such as a flip-up hood and external sight gauges. A



M Series 3 Specs

Model	Net HP	Operating Weight (lb.)	Max. Dig Depth	Bucket Dig Force (lbf.)
580M	79	13,359	14'3"	11,212
580 Super M	91	14,285	14'3"	12,212
580 Super M Plus	95	14,905	14'8"	12,821
590 Super M	108	15,268	15'10"	14,718
590 Super M Plus	108	15,268	15'10"	14,718

new electronic instrument cluster displays diagnostics and service reminders, and the machines' axles do not have to be removed during maintenance thanks to the outboard wet disk brakes.

That's where most of the similarities end. Only one model, the 580M, employs Case's Family III 445T/M3 engine, running at 79 net horsepower. The rest of the family is propelled by the more powerful Case Family IV, 445TA/E3 engine, with a net horsepower ranging from 91 for the 580 Super M, to 108 for both the 590 Super M and 590 Super M Plus.

Equipped with electronic engines with high-pressure common rail injection, the Super M models are better at

The M Series 3 line of backhoe loaders from Case ranges from the 79-horsepower 580M all the way up to the 108-horsepower, feature-packed 590 Super M Plus.

starting up in cold temperatures and can get more miles to the gallon. Even thrifter are the Super M Plus models, which utilize pressure-compensated load-sensing hydraulics to further reduce fuel consumption.

Operators will have more control over attachments, like a 4-in-1 bucket, because of the backhoe loaders' electronic auxiliary controls. On the Super M and Super M Plus, operators can use the rotary hand throttle or the foot throttle to set the engine to the desired rpm. The 590 models also add a larger steering cylinder, which increases steering torque.

Optional pilot controls provide highly adjustable control towers as well as one-touch idle functionality, which allows the operator to quickly switch between idle mode and the previous RPM setting. Another option is the new power shift transmission with three-speed reverse for smooth, on-the-go shifting in addition to more pushing power in first and second gears.

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Paving Report

By LARRY STEWART, Executive Editor

Wirtgen Cracks the Concrete-Paver Market

Three multi-adjustment tracks carry the SP15 slipformer with offset molds 4 feet high and 6 feet wide

Wirtgen is bringing concrete paving products designed for North America to our shores, starting with the SP15 slipform curb-and-gutter machines. The company has sold concrete pavers in Europe for some time; products of its acquisition years ago of Belgian manufacturer SGME.

Like most curb-and-gutter combos, the 27,500-pound, three-track SP15 forms much more than curb and gutter. It is capable of welding barrier-wall molds up to 4 feet 3 inches high and horizontal molds to 6 feet wide.

The offset mold can be mounted on the machine's left or right and telescoped as much as 28 inches from both sides. A quick-attach system allows it to be switched easily from side to side in minutes. It supports five electric or hydraulic, variable-frequency vibrators.

The three hydraulically driven track units steer independently. Steering geometry is monitored by position sensors and the on-board computer to ensure smooth turns.

Tracks are mounted on telescoping legs that can be adjusted hydraulically through a range 39 inches high, and the SP15 can be lifted manually an additional 11 inches. The rear track telescopes horizontally for positioning close to the paving profile on either side of the machine. The two front track legs pivot independently.

The optional 20-inch-diameter trimmer's slope and its horizontal and vertical position can all be adjusted hydraulically. Wirtgen beefed up the trimmer, compared to those used on the company's European line, to match North American contractors' expectations. Wirtgen's experience manufacturing cold planers suggests that this maximum-63-inch trimmer, while a bit smaller than others in the 25,000- to 30,000-pound curb-and-gutter-machine weight class, will



Wirtgen's 27,500-pound, three-track SP15 will telescope molds 28 inches to either its left or right side.

be a solid performer.

The SP15 comes standard with a belt conveyor, but a folding auger is also an option for receiving concrete and carrying it to the top of the mold. Both delivery options are hydraulically adjustable to transfer material equally well to either the right or the left side of the machine. The auger can be adjusted to inclines as steep as 45 degrees. And because it holds a significant quantity of concrete, the auger can act as a buffer between mixer loads.

In ECO mode, the SP15's on-board computer coordinates output of the 123-horsepower Deutz diesel to demand sensed at the hydraulic pumps to keep the engine running at optimal speed. Wirtgen says the system gets maximum machine performance while it saves fuel.

A 39,600-pound SP25, with three- or four-track stance and mold heights up to nearly 6 feet, will soon be available. Wirtgen's SP15 combination paver is expected to sell for about \$220,000.

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Slipformer Specifications (25,000 - 30,000 pounds)

	Engine, HP	Max. trimmer width (in.)	Max. mold height (in.)	Max. paving width (in.)	Operating weight (lb.)
Miller Formless M-8100	John Deere, 173	36	84	192	25,000
Power Curber 5700-C	Cummins, 130	78	96	144	25,600
GOMACO GT-3600	John Deere, 99	66	24	120	25,670
GOMACO GT-3400	Cat, 127	78	50	72	27,500
Wirtgen SP15	Deutz, 123	63	51	72	27,500
GOMACO Commander III-3T	John Deere, 185	120	84	192	29,500

Source: Spec Check

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Market Watch Lite

By KATIE WEILER, Managing Editor

Access our online reader response form at ConstructionEquipment.com/info. Just key in the issue date and make your selections. Subscribe to our monthly eNewsletter at ConstructionEquipment.com/subscribe.asp.



CEAttachments

For the handling of awkward debris, CEAttachments has added a heavy-duty brush root grapple to its Edge brand of work tools for skid steer loaders. The throat of the Edge brush root grapple measures 40 inches when open and 16.5 inches closed. Featuring dual independent grapples, the attachment has an overall depth of 39 inches, and comes in widths of 72, 78, 84 and 90 inches.

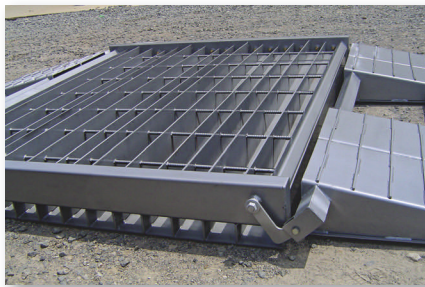
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Innovative Equipment Solutions

The Tracinator is billed as a one-tire revolution dirt removal system for light conditions or for usage where a heavier-duty wheel-wash system is not practical. It flushes itself clear of debris by attaching a 2-inch hose from a water truck or fire hydrant and placing the clean-out valve in the open position. Debris is flushed out to the side through the open ports. The unit can be configured with a set of hinged ramps.

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Hobart Welding Products

Champion Elite engine-driven welding generator is powered by a 23-horsepower OHV Kohler or Subaru gas engine. It produces 11,000 watts of auxiliary power and features a 225-amp AC or 210-amp DC weld output. With 9,500 watts of continuous power at 100-percent duty cycle, Hobart says the unit allows operators to weld and work with auxiliary tools at the same time.

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Sidney Manufacturing

With the hydraulically rotating Timberline tree shear attachment from Sidney, an equipment operator can reach in to a hardwood stand and, with one cut, remove a tree up to 14 inches in diameter. The T1 steel blade is able to use 70,000 pounds of force for a clean cut. The ability to rotate up to 110 degrees after the cut allows the Timberline HTC shear to serve as a grapple to lift, wrangle and carry the fallen tree.

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Miller Electric

By replacing the carburetor with electronic fuel injection (EFI), Miller has managed to cut hydrocarbon and nitrogen oxide emissions by 33 and 27 percent, respectively, on each of two updated welder generators. Trailblazer 302 EFI and Bobcat 250 EFI are the only EFI engine-driven, twin-cylinder welder generators available in the industry, says Miller, improving claimed

fuel economy up to 27 percent. Weld output and generator power is increased to 12,000 peak and 10,500 continuous watts on both machines.

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Market Watch Lite

Hobart

Replacing the IronMan 210 and 250 models, Hobart's new IronMan 230 is a 250-amp industrial-grade MIG welder featuring 12 voltage taps, up from seven, for improved arc starts and fine-tuning. The single-phase, all-in-one welder is suited for welding mild steel material ranging from 24-gauge to half-inch. A cast aluminum two-roll wire drive system replaces the plastic drive system.

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Genesis Attachments

Designed for third-member use on 15- and 30-metric-ton carriers, two additions to the GDR attachment line boast regeneration valves for quick cycle times and large-bore cylinders for greater crushing forces. The GDR 150, with a jaw opening of 26 inches and jaw depth of 25 inches, boasts 85 tons of crushing force at the tip; the GDR 300, with an opening of 42 inches and jaw depth of 28 inches, generates 148 tons of crushing force.

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Knaack

A package of Weather Guard storage solutions is being offered for a commercial van now available in the U.S. market. For use on a Ford Transit Connect, the system includes a custom bulkhead to protect against shifting loads and a wide range of shelving, cabinets, drawer units and more. For greater visibility, a wire mesh bulkhead is available, along with wire mesh window screens.

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General Equipment Co.

Weighing just 55 pounds, General's DG7 surface grinder is said to harness the performance of a professional-duty, high-speed concrete grinder in a small, ergonomic design. It is powered by a 2,300-watt grinder, which can use a variety of 7-inch diamond segment discs for assorted surface preparation applications.

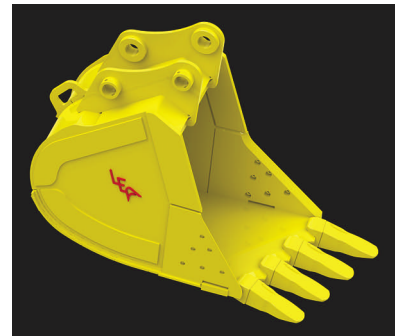
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Leading Edge Attachments

With a "staggered tooth" design courtesy of an angled front edge, the Stag bucket allows the excavator operator to focus full breakout force on one tooth at a time, increasing the likelihood of penetrating compacted soils, coral, shale, stratified materials, shot rock or frozen ground. Also possible is the creation of flat trench bottoms because the teeth are on the same plane, similar to a conventional bucket.

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▶ Atlas Copco

Atlas Copco improved the carburetor and filter for its new generation of Cobra gasoline-fueled breakers and added a catalytic element to the exhaust to satisfy EPA's Phase 3 emissions standards for small non-road engines. All models feature electronic ignition, choke and a redesigned tank cap. Cobra Pro and TT also have a decompression valve.

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◀ Burndy

The PAT750XT-18V crimping tool has claimed speed increases of 25 percent over the predecessor model and up to 40 percent over other lithium-ion-battery-powered tools on the market. Powered by an 18-volt Ni-MH battery, the unit has updated electronics built to work in harsh environments. The tool itself comes with a five-year warranty; the Infinity Drive has a lifetime warranty.

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▼ CEAttachments

With cone, truncated and semi-truncated spade shapes to choose from, the CareTree heavy-duty tree transplanters will move root balls with diameters of 28, 32, 36, 42, 48 and 54 inches, the latter equating to a ball weighing in excess of 2,100 pounds. Featuring semi-truncated blades, the Edge standard-duty tree transplanters will move root balls with 24-, 30-, 40- and 50-inch diameters, respectively.

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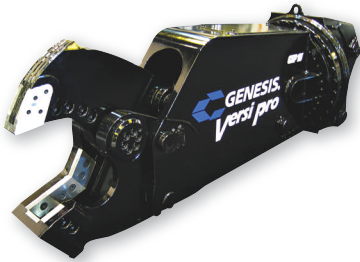
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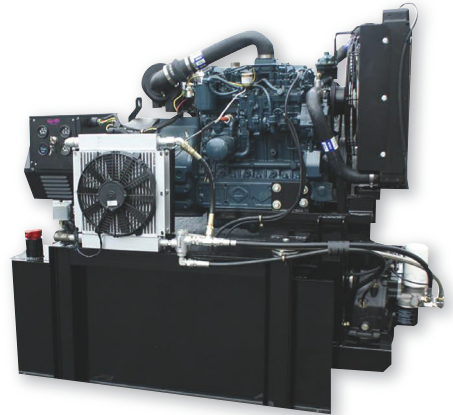
Market Watch Lite



◀ Genesis

Designed for third-member mount on carriers in the 28,000-pound range, the Versi Pro 15 with standard 360-degree rotation similarly offers modular-design jaw sets to maximize machine use. Jaws are available in two configurations – shear and concrete cracking – and each can be switched out in as little as 10 minutes using standard tools.

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▶ Next Generation Power

A vertical-design option for Next Gen's generator compressor cuts down the overall width of the package and reduces the footprint. The unit places the gen-set on a framework over the fuel or air tank, enabling the compressor to be belt-driven below the crankshaft, the company says. Sizes are available from 10-50 kW with 20-100 cfm of air.

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▶ Sakai

Sakai's new line of five vibratory plate compactors – models PF120, PF150, PF280, PC600 and PC800 – are built to last with cast iron sleeves, forged crankshaft, twin bearings and alloy-steel vibrating plates. The PF120, PF150 and PF280 models offer a forward-and-reverse option. Plate width ranges from 14x20.5 inches to 18x34 inches. The PC600 and PC800 come standard with a 2.6 gallon water tank.

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▶ Danuser

The EP Heavy Duty Auger Series features a planetary design with fewer internal components that are completely sealed and running in oil. According to the company, compact housing design and hoses routed out the top allow you to dig deeper and in tighter locations. It has a utility-style housing with integrated ears for added strength. The EP mounts to skid-steers, front-end loaders, mini-excavators and backhoes.

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▶ Leading Edge Attachments

LEA's staggered Multi-Ripper teeth function like trencher teeth, applying the excavator's full breakout force on each tooth tip sequentially. No two ripper tooth tips align, so bucket-curl force is focused on one tip at a time. Self-sharpening sides are said to improve side wall ripping. Four sizes range from a \$15 model that fits on backhoes, to Cat J460 size class (excavators up 110,000 pounds) that sell for about \$121 each.

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▶ Absolute E-Z Up's

Absolute E-Z Up's new IAWP-9.6 aerial work platform sports a zero inside turning radius and offers 397 pounds of capacity on its dual-extension decks. While the work platform can accommodate two people, only one person is needed to transport it, Absolute says. Powered by twin 12-volt batteries, the machine handles up to 250 lift cycles per charge or a driving range of more than seven miles. The IAWP-9.6 weighs 1,212 pounds and is designed for use on a variety of floor surfaces.

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The Equipment Lock Co.

The Landing Gear Leg Lock prevents the hand crank on a trailer from raising the landing gear. TELC products are powder coated for a durable finish and use barrel-style keys that can be special ordered keyed the same as any other TELC locks. The lock can also be built with a four-digit changeable combination lock, and it retails for \$139.50.

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Atlas Copco

Atlas Copco has adapted its radio remote control systems to build into the ROC D3-01 RRC and the ROC D3-03 RRC drilling rigs. Rod handling on the ROC D3-01 RRC manages up to five 12-foot rods. The compressor can deliver up to 200 cubic feet per minute of free air. The ROC D3-03 RRC has a long folding boom with an optional rod rack. The 03's compressor can push 170 cubic feet per minute of free air.

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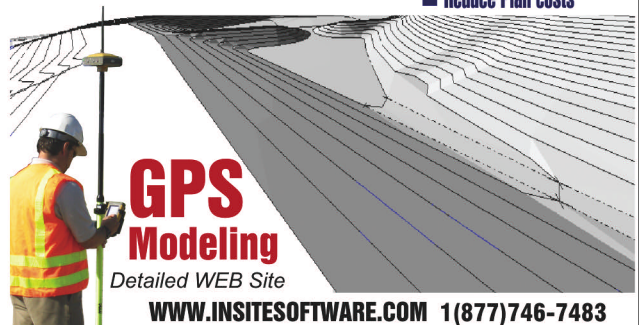
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21 Products Launched At World of Concrete

Equipment manufacturers have had a tough year with layoffs and reduced sales. But that didn't prevent them from showing off new and innovative machines at this year's World of Concrete.

The show was just a taste of what manufacturers will be unveiling in the coming months, with Bauma right around the corner and Con-expo-Con/Agg early next year.

Among the new products were a wheel loader from Wacker Neuson, a site dumper from MZ Imer, a compact crusher from Komplet, and a concrete pump from Schwing.

Head over to Digital Digest to read about more machines launched at the show.

Watch Bobcat's S630 Skid Steer Take on Bigger Brother

Bobcat claims the S630 boasts improved visibility, instrumentation, and hydraulic efficiency to help it to overcome a high-flow horsepower disadvantage and match the larger S220.

Which loader performed better in *Construction Equipment's* in-depth tests? Watch the video field test, and learn about the S630's features at ConstructionEquipment.com/digest.

Deere Customers Help Shape D-Series Loaders

John Deere's new D-Series skid steer loaders was a result of years of research and partnering with skid-steer owners and operators from around the world. Read CE's report on the new skid steers, and get a glimpse of the D Series' cab, service compartments, and other features.



Latest from Big Iron Blog

Larry Stewart discusses the increasing importance of tackling 'green' issues in the construction and trucking industries.

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