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cuts costs with  
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March 2009

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**CAT** AP655D

## Pavers on a New Path

Market terrain is changing for the industry's  
top paving manufacturers **p. 34**

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### 1. WE THOUGHT OF CUSTOMERS FIRST

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### 2. WE MADE IT EASY FOR YOU AND YOUR BOTTOM LINE

With MaxxForce Advanced EGR, there's no change in how you operate your trucks. There's no complex packaging of an after-treatment system, and you eliminate the cost and hassle of added maintenance, parts and training. And because vehicles with MaxxForce Advanced EGR don't have the extra components of SCR, they have a payload capacity advantage. That's not to mention the overall operating cost advantage you get when you put a MaxxForce Advanced EGR engine in our industry-leading aerodynamic trucks. It all adds up to more money in your pocket.

### 3. DO YOU REALLY WANT TO DEAL WITH UREA?

So, what's the irrefutable difference between MaxxForce Advanced EGR and SCR? In a word: UREA. It's not only the costs to keep the urea tank filled, but also the costs, space and temperature controls required for storage. Add to that driver and technician training, plus the cost of downtime for repair, and you have an expensive hassle on your hands.

### 4. WITH PROVEN TECHNOLOGY, TURN THE KEY AND YOU'RE COMPLIANT

We're the only ones who figured out how to do EGR for EPA 2007 in a way that seamlessly evolves to meet 2010 requirements. Working with an engine technology that has 9 million miles of success is a much safer proposition than adding an after-treatment system that has not been proven under such stringent emission standards. We believe so strongly in MaxxForce Advanced EGR that we're rolling it out across our full line of fuel-efficient, durable and reliable vehicles.

Let's clear the air, cont'd p.2

### 5. IT'S THE VIABLE LONG-TERM SOLUTION

Advanced EGR is the right solution for the future. Undoubtedly the EPA will continue to reduce emissions beyond NOx. And after years of experimenting with SCR, other truck manufacturers in Europe are now moving toward EGR solutions as a more viable long-term answer. And other industrial technology leaders are currently in development of other non-SCR-based emissions solutions. As you continue your focus on the long run, keep in mind that the resale value of Advanced EGR-equipped vehicles is stable, while the resale value of vehicles using other solutions is unknown.

### 6. CONSIDER THE GREEN FACTOR

When evaluating MaxxForce Advanced EGR and SCR, the overall carbon footprint of each solution should be considered. Just think about the additional energy required for the production, distribution, infrastructure and manufacturing of urea. Plus, we've been rewarded by the EPA for achieving lower emissions years before it was required. So, not only have we been applying green thinking towards lower emissions for years, we've been able to use that thinking to your advantage.

### 7. THE ROAD AHEAD IS CLEAR

There's no question that 2010 emissions requirements will be beneficial for our world. When you know the facts about the best way to achieve compliance, there's simply no debate. Whether you focus on lower operating costs, less hassle for your employees or impact on vehicle resale, the answer is clearly MaxxForce Advanced EGR. We're already on the road to a world with cleaner air.

LEARN MORE ABOUT CLEARING THE AIR WITH MAXXFORCE ADVANCED EGR AT OUR APRIL 4TH WEBINAR. SIGN UP AT [INTERNATIONALTRUCKS.COM/EGRWEBINAR](http://INTERNATIONALTRUCKS.COM/EGRWEBINAR).

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# CONSTRUCTION EQUIPMENT

March 2009 • Vol. 112, Issue 3

## FEATURES

## DEPARTMENTS

**Editorial** 9  
Data devoid of context

**Managers Digest** 19  
Software follows equipment for life  
Train wheel-loader operators on a PC

**Equipment Executive** 47  
Three goals for world-class management

**Digital Digest** 62  
View highlights from World of Concrete  
on [ConstructionEquipment.com/Digest](http://ConstructionEquipment.com/Digest)

## PRODUCTS

**Market Watch** 13  
This month's primary  
machine introductions

**Spotlight** 43  
Vibratory plate compactors

**Truck Report** 51  
Tier 2 brings cost-cutting  
features to the Cat 785D

**Trenching Report** 53  
Vermeer expands quad-track  
availability

**Market Watch Lite** 54  
Small solutions to  
jobsite challenges

Innovations & Ideas 57

Classifieds 60

Advertisers Index 61

### RUNNING GREEN

## 24 A Mercenary Guide to Reducing Diesel Emissions

Three technologies — automatic grade control, vehicle telematics, and fuel-tracking systems — boost profits by cutting fuel use, and improve air quality in the process. Executive editor Larry Stewart sheds light on a how to make those technologies work for your fleet.



### HANDS-ON TRUCKING

## 30 Fitzgerald Glider Runs Like a New Truck



Nearly everything about this dump truck is brand new. It's an FLD Classic titled from its year of manufacture, 2007. It drives like new, too. But crank over its engine and you'll know the diesel under the hood is not new. That's the main point of this truck. It's assembled from a glider kit, leaving the factory with no engine. That, plus a clutch and transmission, and sometimes axles, are added later. The major power-train components are rebuilt or remanufactured, so they're long lasting, but considerably less costly than new ones. Plus, you'll save FET.

### BUYING FILE

## 34 A Never-Ending Path for Asphalt Pavers

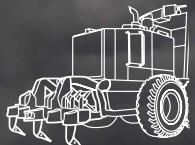
On the verge of the previous World of Asphalt trade show two years ago, *Construction Equipment* surveyed the market landscape for full-sized asphalt pavers. Two mere years would not seem enough time for change to an equipment type designed and built for the long term, but senior editor Mike Anderson gives you an update of the current marketplace.



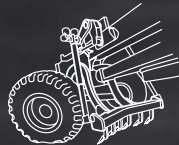


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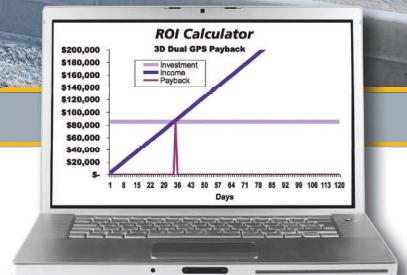
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## Data Devoid of Context

Stock market indices have become the new barometer of economic health, it seems. How many of us are looking to see “how the markets responded” to any sort of action out of Washington these days? How many of us check the charts each morning or each evening?

There’s certainly nothing wrong with following markets, especially those in which we’re vested, but there is something to be cautious about when our decisions are based on short-term fluctuations in data.

Equipment managers are finding similar frustration as they continue to use telematics and on-board diagnostics systems to monitor the health of their fleets of construction machines. As one manager explained to us recently, there’s a difference between telematics and the data produced by on-board diagnostics systems.

Telematics transmits the data. It’s the simple, in theory at least, process by which the data from each machine makes its way into whatever management system the fleet operation uses. In January, Mike Vorster illustrated the data flow in “Three Keys to Making Telematics Work.”

The data, according to this manager, cause problems when they come in fast and furious through e-mail and cell-phone alerts. Often, he says, these alerts are not actionable, that is, they lack the proper context to determine whether it’s a problem that needs immediate attention or not.

This constant flow of data differs from the trend data that managers must track by machine, machine type and even by fleet. The frustration of having to deal with numerous alerts each day distracts from the need to plan and execute machine-management programs.

As with the stock markets, the immediate can detract from the long-term. Lack of context can lead to decisions made without full knowledge of the situation and even full understanding of the outcome.

Other managers, we presume, have this same problem. If you’d like to share your solutions, or add your take on the situation, visit our group in LinkedIn.com: Construction Equipment.



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

By KATIE WEILER, Managing Editor

### ► Dynapac

Four new tandem asphalt rollers, the 8- to 10-tonne Dynapac CC224HF and a split-drum version CC234HF and 10- to 12-tonne models CC324HF and split-drum CC334HF, extend Dynapac's range in the 8- to 12-ton class to six models. "Soft" starting and stopping prevent bowing or cracking in the asphalt layers. The machines automatically drop out of the "soft" mode and brake immediately if the lever is moved quickly, signaling the need for an emergency stop. A double-pump vibration system eliminates need for a vibration valve, making the system more efficient and aiding servicing while reducing fuel consumption.

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### ◀ Ditch Witch

Equipped with trencher stabilizers that automatically adjust with terrain changes, the steel-tracked Ditch Witch HT300 is capable of trench-

ing up to 10 feet at a width of 36 inches in rock-laden sites. A flywheel gearbox delivers maximum power to the trenching attachment on demand with minimal shock to the hydraulic system, and a bit block digging system allows the operator to customize the digging tooth pattern. As soil conditions change, the cruise-control system adjusts the ground speed of the machine.

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### ► Atlas Copco

The ROC F9C SmartRig's GPS system guides operators to shot locations without need for painting the bench, and once the rig is set, the on-board computer takes over drill operations to make fast, consistent holes. Operators can pre-plan shot patterns by entering hole spacing, burden, depth and blast angle on a personal computer. They then load a memory card into the ROC F9C controller. Laying out shot patterns digitally allows precise control of shot material size. The SmartRig computer adjusts impact power and feed pressure to suit rock conditions. It drills holes between 3½ to 5 inches in diameter and up to 98 feet deep.

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### ◀ Volvo

At 98 and 115 net horsepower, respectively, two mid-sized models are the latest additions to Volvo's F-Series wheel loaders. The 19,070-pound L45F and 20,790-pound L50F feature Volvo's torque parallel loader linkage, which provides smooth parallel lift, high rollback torque and lifting power throughout the lift range. The linkage on both new machines provides "class-leading" pallet visibility and a clear view of attachments.

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## Market Watch



### ▲ Vermeer

The RTX750 is the newest addition to Vermeer's utility installation product lineup to feature the quad-track system, designed to maximize tractive effort and stability by maintaining constant four-point ground contact and providing full power to all four tracks. As compared to a dual-track system, the quad-track design has relatively no "breakover" point, says Vermeer. Customers can choose between the quad tracks or rubber tires. When equipped with tires and rear steer, the machine has an outside turning diameter of 17 feet. Powered by a 74-horsepower Cummins engine, the RTX750 will be available with a vibratory plow, trencher, sliding offset trencher, combo trencher/plow, reel carrier and backhoe attachments.

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### ▲ Sellick Equipment

Sellick's STT80 Tow Forklift can tow heavy loads efficiently and safely in rough terrain. Available in both two- and four-wheel drive, it has a lift capacity of 13,000 pounds at 12-inch load center and an 8,000-pound drawbar pull. The Dieselmox Turbocharged 444 diesel engine directs power to the ground through a power-shift transmission.

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### ▼ Caterpillar

On Caterpillar's new 906H and 908H compact wheel loaders, a skid steer loader-style quick coupler is a standard feature that accommodates most

Cat skid-steer work tools. The optional high-speed configuration increases top travel speed to 22 mph. A Cat C3.4 engine powers each of the wheel loaders. It is rated at 70 net horsepower in the 906H and 80 horsepower in the 908H. Enhanced hydraulics increase 906H lift capacity 15 percent and rated operating load for the bucket on the 906H (1.2 cubic yards) increased 7 percent.

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### ▲ Genie

Along with fixed axle widths, faster elevation times and improved software, the S-80 and S-85 telescopic booms feature the virtual pivot boom design launched on the S-60 and S-65 models in 2003. This design keeps the weight of the boom over the chassis' center of gravity as it elevates, eliminating the need for additional counterweight and keeping the overall weight of the unit down. With the fixed axle widths, total machine width remains at 8 feet 2 inches, be it on the trailer or worksite.

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The news upstream from Coralville, IA wasn't good. Floodwaters were swamping the towns above them - and it was headed their way. Government leaders asked Kevin Long for help. Kevin's a rep for RTL Equipment, Doosan's dealer in Des Moines. You could say Kevin had an interest in protecting Coralville from the flood. He lives there. RTL Equipment rushed in two Doosan wheel loaders: a DL200

and a DL250. As soon as they were off the trailer, they were shoring up sandbag walls to defend the town. And here's the part that still amazes us. Both machines worked for 48 hours straight in six feet of water. That raised a lot of eyebrows with our testing engineers. Find out for yourself what a Doosan can do. Tell us to give you a free demo. Visit [www.demodoosan.com](http://www.demodoosan.com) to find out how.

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## ▶ Haulotte

With the HB86 TJ+ telescopic platform, Haulotte was able to improve operator comfort by including a self-leveling system and a rigid boom and jib partly composed of high elastic modulus steel, providing greater platform stability. The aerial platform can reach 75 feet 6 inches and can lift up to 772 pounds. At 16 feet 5 inches, the telescopic jib with proportional controls helps the HB86 TJ+ access hard-to-reach areas.



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## ▶ Hamm

Improving upon its HD series of articulated tandem rollers, Hamm has introduced HD+ rollers featuring a new pivot assembly centered beneath the cab for better load distribution and driving stability. Unlike the previous HD series, only a few turns of the steering wheel are needed to turn the roller on the new units. Thanks to the Hamtron machine control system, HD+ tandem rollers automatically govern diesel-engine speed to ensure optimum performance. And at a height of just 10 feet, HD+ tandem rollers can easily work under bridges or other low projections.



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## ▶ Grove

Grove's latest all-terrain crane, the five-axle GMK5110-1, boasts a 242,508-pound capacity with a 166-meter telescoping boom. All crane operations, including both superstructure and carrier functions, are controlled via Manitowoc's ECOS system and EKS 5 Light load monitoring system, which provides warning alerts for faults or errors and can transmit data to Manitowoc's service centers for quick repairs. Also included are a 59-foot swing-away jib and two 26-foot-3-inch boom extensions for extended reach.



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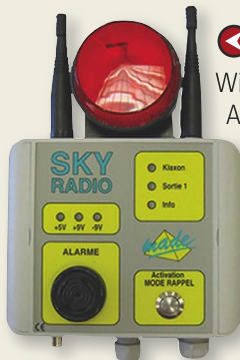
## ◀ Volvo



Topping off Volvo's range of wheeled excavators, the EW230C is the largest of the lineup. The excavator is built around a new, more robust platform designed to maintain stability when lifting heavy loads, such as big pipes. With standard counterweight, the EW230C weighs 47,620 to 53,572 pounds depending on the machine configuration. Powered by a Volvo D6E EHE3 diesel engine rated at 168 horsepower, the excavator has a lifting capacity of 19,401 pounds and maximum digging depth of 22 feet 4 inches.

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## ◀ Made



Winner of a 2009 Interamat Innovation Award, Sky Radio 2.0 by France-based company Made is an aftermarket sensor system that detects nearby power lines. The sensors, which can be installed on an aerial work platform, concrete pump, or other equipment that reach significant heights, send a signal to a central unit in the vehicle when the operator platform gets too close to a medium- or high-voltage power line. The central unit then activates the vehicle's horn, warning the hoisted operator that he or she is in potential danger.

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## ▶ K-Tec Earthmovers

The articulated dump truck (ADT) series of scrapers offers greater speeds, a smoother ride, and a tighter turn radius than agricultural tractors. According to K-Tec, the ADT scraper also is easier to use for less-experienced operators and provides better flotation than motor scrapers. ADT models are designed for self-loading with a six-wheel-drive articulated dump truck and can reach speeds of more than 30 miles per hour.

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A man's profile is shown in a three-quarter view, looking upwards and to the left. On top of his head, a small yellow excavator and a grey skid steer loader are balanced. The background is white.

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## DEALER NEWS

## Software Follows Equipment For Life in Cat Pilot Program

The world's largest Caterpillar dealer is a pilot customer for a new software package designed to help equipment dealers improve customer service and profitability throughout the life-cycle of every piece of machinery they sell or rent.

Finning International, with 14,000 employees in Canada, the United Kingdom, Chile, Argentina, Uruguay and Bolivia, is putting the new Lawson for Equipment Service Management & Rental package to the test. The product is developed by Lawson Software, of St. Paul, Minn.

"Equipment dealers operate so differently from almost any other business, so for Lawson to design a package just for our industry provides a great opportunity to increase profitability and deliver outstanding customer service more efficiently," says Jeff Leigh, Finning's vice president of business processes and systems. "It's all about visibility, from understanding total cost per hour per machine, to developing the right preventive-maintenance schedule for each piece of equipment, to being able to quickly get the right

warranty information. It simply helps us be more proactive in managing our business."

Lawson for Equipment Service Management & Rental supports integration across a dealer's global supply chains and links back to the equipment manufacturers. It is designed to improve integration across the dealer's internal sales, finance, service, warranty and rental departments, which in turn helps dealers more quickly process customer orders and warranty claims. According to Lawson, the software also helps dealers plan and schedule future service requirements based on the maintenance programs of their customers' equipment currently in the field to help better predict future parts and labor demands.

For rental companies, the Lawson platform can be used to manage equipment availability, allocation, delivery and returns. The new software package also, says Lawson, helps rental companies measure their profitability against performance goals by automatically tracking equipment usage rates and supporting equipment downtime analysis.

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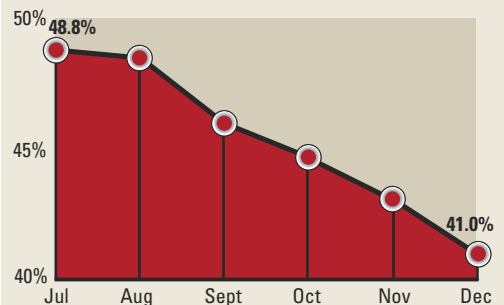
The California Air Resources Board released online a searchable database for verified diesel emission control systems at <http://arb.ca.gov/diesel/verdev/vdb/disclaimer.php>. Emissions solutions can be found in the database when searched by device name (DECS name); engine family name; or engine make, model, year, and displacement. The database currently includes California certified 1992 and newer on-road engines, and 1996 and newer off-road engines.

## USED EQUIPMENT

## December Values Fall 4.8 Percent

## The Rouse Value Index

(Avg. orderly liquidation value as percent of cost)



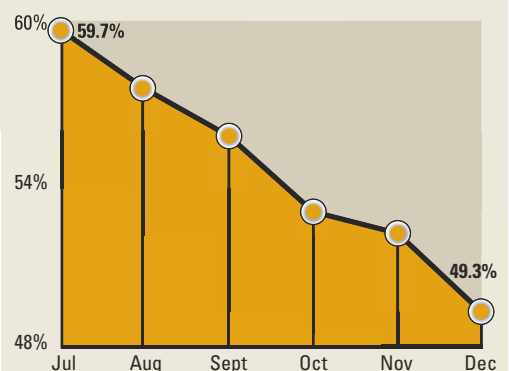
Note: Orderly liquidation value is expressed as a percentage of replacement cost (average cost paid for a new unit by large rental companies and dealers) for the average age of equipment within that category.

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

Orderly liquidation values fell 4.8 percent in December compared with November. Values were down 16.2 percent over the past six months, and 10.5 percent compared with December 2008. Nine of the 10 machines tracked recorded month-over-month declines; crawler dozer values remained unchanged.

## Skid Steer Loaders

(Avg. orderly liquidation value as percent of cost)



Skid-steer loader values have dropped 19 percent in the six months ending December, and average selling age is 54 months. Values are off 15.2 percent from December 2008, but average age was 70 months then.





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## MANUFACTURER NEWS

### Deere Transforms Damaged Equipment into Donations

A weather crisis has been turned into an educational opportunity for equipment-fixing college students in Iowa.

Three pre-production John Deere excavators and a sister Hitachi model that sustained severe flood damage last June were donated to Northwest Iowa Community College for heavy-equipment operations and maintenance students to rebuild and eventually place in the field.

"The amount of water and muck and damage, especially to complex electronics, was just too much for Deere to really gain anything out of rehabbing them ourselves for resale," says Mark Tilson, John Deere product engineer. "Scrapping them seemed a shame, too. But letting students get a real-world lesson on how to rebuild them was a great way to make something good come out of the flooding."

Northwest Iowa students are managing the project from the ground up, says instructor Denny Wallace. "They had to take things apart, identify what was working, what wasn't, what needed fixing, and what needed replacing," he says. "They put together a detailed plan of repair, a timeline and a full estimate of the cost of repairs. As it is, we'll probably invest \$10,000 per unit in the materials

needed to do the repairs.

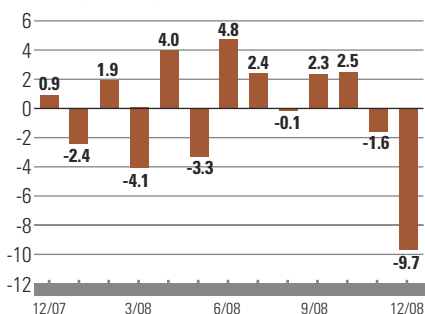
"Other repair jobs in their career might not seem so daunting."

The donated excavators are Deere 75D crawler excavator, 190DW and 220DW wheeled excavators, and a Hitachi ZX190W-3 wheeled excavator.

## CONSTRUCTION EMPLOYMENT

Contractors laid off 111,000 workers in January. Construction employment has dropped 976,000 (12.7%) in the last thirty-three months. An additional 300,000 job losses are ahead before the end of the year. Most of the coming job losses will be in nonresidential and civil construction although new residential and remodeling job losses will continue. Fewer jobs, shorter hours, and a marginal drop in the average hourly wage combined to cut construction payrolls by 2 percent in January. For more analysis, visit our Economic Outlook at [ConstructionEquipment.com](http://ConstructionEquipment.com).

(% change from previous month)



Source: U.S. Department of Commerce

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## RESOURCES

### Train Wheel-Loader Operators On a PC

Canadian-based Simlog, a pioneer in heavy-equipment personal-simulator development, introduced the “world’s first PC-based wheel-loader simulator for construction, quarrying and mining” last fall.

Developed with OEM and training-professional input, the Wheel Loader Personal Simulator provides a prospective operator with realistic wheel-loader controls and a virtual jobsite at which to dig and interact with a simulated off-highway truck. Customers can set up the loader simulator with either a steering wheel or “stick-steering.” Simlog says the training emphasizes best practices for skills assessment, skills development, and refresher training for new and veteran operators alike.

The training program is broken down into eight modules, each lesson building upon the last and becoming more challenging as the operator pro-



**Simlog's Wheel Loader Personal Simulator provides a prospective operator with realistic wheel-loader controls and a virtual jobsite at which to dig and interact with an off-highway truck.**

gresses. For each simulation module, key performance indicators are measured per trial to evaluate the productivity and quality of simulated work.

The simulator is available in English, Spanish and French. The commercial software license is \$6,000. It will be jointly distributed by Simlog, Vista Training, and other resellers around the world. For more information, visit [www.simlog.com](http://www.simlog.com) or [www.vista-training.com](http://www.vista-training.com). A similar system is also available from Caterpillar. Visit [www.cat.com](http://www.cat.com)

## ASSOCIATION NEWS

### AEM Hosts Educational Competition for Teens

On Feb. 7, hundreds of high-school students around the country took part in Construction Challenge, an initiative organized by the Association of Equipment Manufacturers designed to teach young adults about potential careers as engineers, equipment technicians and manufacturing professionals.

The Challenge, now in its second year, gathered more than 230 teams of teenagers who competed in tech-related problem-solving rallies while learning about the importance of off-road equipment in maintaining and developing infrastructure, according to AEM.

“The Construction Challenge was created as a platform to educate students and the public about rewarding, interesting and lucrative career opportunities,” says Dennis Slater, president of AEM. “We want to attract even more young people to help solve our problems with innovative and creative ideas. While our nation’s leaders are planning for the creation of millions of jobs, we are focused on what we can do to help develop this growing skilled workforce.”

and click on Services, Operator Training Services, Simulators.

— KATIE WEILER

## MANUFACTURER NEWS

### New Holland Construction Adopts Rental Program

Under a new rental partner program, New Holland Construction dealers throughout North America will have more options for placing products into rental yards of all different sizes.

Announced Feb. 16, the program allows dealers to offer retail contracts for rental houses wanting to own equipment and have fixed income streams, or leasing options that provide state or privately owned companies the cash-flow benefits without the responsibilities of ownership, says the company. Eligible under the program is the full range of New Holland Construction

products, including excavators, wheel loaders, dozers, telehandlers and skid steer loaders.

Equipment rental is “a natural choice” for contractors who wish to control expenses and inventory while still employing the correct equipment for the job, says the manufacturer.

“The Rental Partner Program paves the way for New Holland’s increased cooperation with rental houses across North America, which contributes to our overall goal to provide contractors the equipment they need, when and where they need it,” says Edgar Chavez, director of marketing.



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**The Group**





# RUNNING GREEN

By LARRY STEWART, Executive Editor

## ***A Mercenary Guide to*** **Reducing Diesel Emissions**

Three technologies — automatic grade control, vehicle telematics, and fuel-tracking systems — boost profits by cutting fuel use, and improve air quality in the process

**C**alifornia contractors are finding compliance with in-use, off-road diesel emissions rules expensive. Those working outside California have a unique opportunity to apply a much broader range of technologies that will cut diesel emissions from their work sites, some of which will also cut operating costs.



A Ryan Inc. field mechanic swipes a machine's bar code with a cell phone and reader accessory before filling the fuel tank. Fuel pumped, together with machine hours keyed into the phone's keypad allows Ryan to monitor and manage fuel consumption for each machine in its fleet.

These technologies — automatic grade control, vehicle telematics, and fuel-tracking systems — are not the kind of things that will satisfy the emissions regulations likely to spread from California to other states. But they offer equipment operations a competitive advantage, and can help reduce the need for regulation. The happiest coincidence — especially in light of 2008's fuel-price history — is that most efforts to reduce fuel consumption will also cut the volume of diesel exhaust.

One of the greatest opportunities to cut fuel costs is to idle machines less. Komatsu estimates that idling consumes nearly 20 percent of a typical construction machine's lifetime fuel burn. The California Air Resources Board mandated anti-idling programs for most diesels in the state. Telematic technologies — eye-in-the-sky boxes that combine global positioning systems (GPS) and wireless cellular networks to monitor and transmit data such as machine location, hours of use, and operating condition — are great tools for modifying operator behavior.

The most profitable way to reduce fuel consumption is to use automatic grade-control systems such as Accugrade, Trimble, Topcon and Leica grade-control products that enable machines to cut down to planned grade faster and more accurately. Users are consistently finding that they are within project tolerances on the first fine-grading pass.



## Grade control

Caterpillar claims that its Accugrade automatic grade-control system boosts productivity by as much as 50 percent, and fuel savings by as much as 43 percent. The systems reduce the first and second largest inputs to equipment costs, labor and fuel. And each dollar saved drops to the bottom line as profit.

Roxwell Construction, a small commercial sitework company from Thousand Palms, Calif., has been using GPS grade control less than a year, and company president Roxwell Fontenot is impressed with the technology's fuel-saving aspects. The company has a new Cat D4K bulldozer equipped with a Trimble GCS900 Grade Control System. It ties into a Trimble SPS780 Smart GPS Antenna that serves as the base station. The system allows Fontenot to compete for more complex projects, and it reduces machine hours needed to achieve planned grade.

"Our work is so accurate with one pass that we've eliminated rework," states Fontenot. "On our first job (with automatic grade control), I learned how accurate we can be with just one pass. The developer came out and checked our grade and we were within 1/10th on each of the 74 shots they made."

Roxwell is ahead of schedule on a Brawley, Calif., project that will eventually move 60,000 cubic yards of silty clay to make way for several three-story apartment buildings. Plans call for the firm's six-person crew to over-excavate four feet for sub-surface drainage under the parking lots that will replace open retention ponds.

"We're completing our finish grading in half the time because we're using GPS machine control," says Charlie Hollingsworth, site manager and operator for Roxwell.

Interstate Highway Construction, an early adopter of GPS-based machine control systems, has enjoyed most of the technology's benefits at one time or another. Their recent complete reconstruction of 6.67 miles of I-75



in central Michigan illustrates how even the reduced need for grade stakes saves fuel.

"Virtually all of the grading on this job was done without staking, except for the reference stakes we placed every 300 feet or so to reassure the Michigan Department of Transportation (MDOT) inspectors," says Brad Miller, project supervisor. "Because there were no grade stakes to work around, we could spread the entire width of the grade. That saved a lot of time."

## Telematics

Komatsu claims that if you can eliminate even half of the average construction machine's non-productive idle time, fuel costs are cut by 10 percent. That's significant, and reduced idling also improves resale value.

Komatsu literature offers an example, comparing two PC200 excavators that actually work 600 hours per year doing identical work. One machine idles 40 percent of the time whereas the other idles 20 percent of the time. After five years, the machine that idles 40 percent of the time runs up 5,000 hours on the service meter, while the machine that idles 20 percent of the time will register fewer than 4,000 hours. Not only is the machine with fewer hours worth more, it will also have had two fewer maintenance intervals, which cuts cost and increases availability.

The example is part of Komatsu's sales

**"We're experiencing time savings and greater productivity by virtue of the fact that our work is so accurate with one pass that we've eliminated rework," says Roxwell Fontenot. "On our first job (with the GPS grade-control system), I learned how accurate we can be with just one pass. The developer came out and checked our grade and we were within 1/10th on every one of the 74 shots they made."**





# RUNNING GREEN



**Stakeless grading saved Interstate Highway Construction passes when rebuilding six miles of I-75 in central Michigan "because there were no grade stakes to work around; we could spread the entire width of the grade," says Brad Miller, project supervisor.**

pitch for its Komtrax telematic system for monitoring machine condition, location, and operation (a system like Caterpillar's Product Link or Qualcomm's GlobalTracs). By measuring and graphing machine idle time versus work time accurately, data from telematic systems can help modify operator habits to save fuel as well as increase residual value.

Ace Asphalt, the largest parking lot builder in Arizona, expects to save nearly \$150,000 worth of fuel in its first year on idling reductions alone thanks to a fleet management service it purchased from GPS Fleet Management, a Phoenix-area vendor. Ace implemented GPS Fleet Management's solution throughout its fleet, installing GPS equipment in 283 mobile machines.

"Initial reports show that we have cut unnecessary idling by nearly 50 percent since the start of the program (in June)," reports Darin Soll, chief information officer for Ace.

"The 'Ignition On, Ignition Off' feature is our flag to know if a vehicle is running or not," Soll adds. "If it idles for more than a few minutes, the system generates an exception (report) that notifies us by e-mail and text message so we can quickly address it."

## Fuel tracking

In the past, diesel was cheap enough that it was not worth the effort required to accurately measure how much fuel was burned in each machine in even a modest-sized fleet. With diesel retaining something like a \$1.30 premium over the cost of a gallon of gasoline, few can afford to make a living using diesel equipment without knowing specifically how much fuel individual units consume.

Luckily, technology has provided a number of options for tracking fuel use automatically, or nearly so. Very often the process of gathering fuel-consumption information raises awareness of a firm's need for fuel-efficiency enough that simply implementing a tracking system cuts fuel use. The data inevitably improves fleet-management efforts.

Ryan Inc. Central's fuel vendors use Nextel phones with bar-code-reading accessories to tag each gallon of fuel they pump to a machine ID. Phones communicate via Bluetooth to laptops in the fuel trucks, so data can be uploaded directly to the Janesville, Wis.-based earthmover's fleet-management software, a home-grown system called Iron IQ.

The fueler scans a bar code on the machine to gather the unit number, and the computerized fuel truck records the measure of fuel pumped into the tank. Fuel pumped equals the amount of fuel burned since the last fueling. The fueler punches hour-meter readings into his keypad with each fuel stop, and that data is correlated with gallons pumped to compute fuel consumption for each of Ryan's machines. Nextel's GPS chip identifies the machine location.

The process complements fuel-consumption and hour-meter data gathered by Qualcomm's GlobalTracs asset-tracking systems. Ryan has 500 units with Qualcomm boxes.

"We paid for the Qualcomm boxes in six months just with the increased utilization on small equipment," says Greg Kittle, Ryan's equipment manager.

Iron IQ's automated data gathering eliminated several thousand hours of data processing at Ryan. Because the data fuel-truck driv-



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# RUNNING GREEN

ers gather every time they top off a tank is used to generate the vendor's invoices, the system also eliminated 3,000 hours of vendor data processing. One result is that Ryan pays significantly less on bulk fuel than most.

"Saving our vendors money is important to Ryan," says Kittle. "That's how you build partnerships. It also allows us to negotiate service charges — we expect to get some of the benefit of saving them money."

Brubacher Excavating became a partner in the Environmental Protection Agency's SmartWay program because the brothers who own the company are committed to minimizing their impact on the environment, and because the process of cleaning up their operations has also tended to improve operating costs. SmartWay focuses on the trucks in their machine fleet.

"It's not hard to become a SmartWay partner, although the program is geared to carriers and shippers," says Myron Brubacher, equipment manager and part owner of eastern-Pennsylvania-based site-prep firm. The company owns 60 medium and heavy trucks — 30 of which are Class 8. "You enter a lot of baseline data — full descriptions of all your trucks, average miles per year, idling hours per year, fuel consumption — into a pretty complex fleet model in Microsoft Excel."

The SmartWay report includes disclosing all of the existing fuel-efficiency strategies used in the fleet. For Brubacher, that includes low-friction drive-train lube and speed limiters. The model calculates fleet average fuel economy and tons of carbon emitted per year.

"After you establish your baseline, you can change your fleet model to include changes in equipment or maintenance or engine setup, and the model will show what those changes will gain in savings due to efficiency."

Brubacher is considering trying super singles, assuming they can find some that are suited to their vocational duty. Reducing the maximum road speed is another possibility. For now the company is focused on effectively reducing idling time.

"We have a lot of trucks getting 35 to 45


percent idling time — some log over 1,000 hours of idle time every year," Brubacher says. "Some trucks burn a gallon of fuel per hour when they're idling."

Implementing a three-minute idling limit has begun to reduce fuel consumption in less than a year of practice. Company policy dictates that operators should turn trucks off if they're to be left running at idle for more than three minutes. Three out of four trucks in the Brubacher fleet are electronic, and they've been programmed to shut down automatically after five minutes of idling.

Operators quickly discovered that any clutch input will restart the five-minute countdown. Eliminating the clutch sensor from the loop shifted driver attention to the accelerator. Any movement of the throttle likewise gives another five minutes of idling. Supervisors continue to encourage drivers to reduce idling at regular toolbox talks and discuss their effectiveness during employee reviews. Long-standing behaviors are beginning to change.

Brubacher is also working to get operators accustomed to maintaining tire inflation pressure. They're required to check tires on equipment and trucks weekly. The company has installed air hoses with tire chucks on vehicles that have on-board compressors. Brubacher has more than a year's experience with two trucks that have the Doran Pressure Pro wireless pressure sensors, and the company recently installed four more systems on trucks to see if they repeat the initial success.

"A display on the sun visor tells the driver how much pressure is in each tire," says Brubacher. "It saves the operator 15 minutes every week, which adds up pretty quick with 60 trucks. And the system also will warn the operator if there is a sudden loss of pressure from any tire. That saves a lot if he takes care of it before he sees tire shreds in the rear-view."

Not all of the expenses required to clean up diesel exhaust will cut operating costs, but most of those that also reduce fuel consumption inevitably will pay for themselves. How long it takes to break even will be determined by how much fuel you burn, and by how much a gallon of diesel costs. 

## Resources

### **DOE Alternative Fuels & Advanced Vehicles United States (Federal) Incentives and Laws**

[www.afdc.energy.gov/afdc/progs/fed\\_summary.php/afdc/US/0](http://www.afdc.energy.gov/afdc/progs/fed_summary.php/afdc/US/0)

### **Idling regulations by state: American Transportation Research Institute**

[www.atrionline.org/index.php?option=com\\_content&view=article&id=164&Itemid=70](http://www.atrionline.org/index.php?option=com_content&view=article&id=164&Itemid=70)

### **EPA SmartWay Program**

[www.epa.gov/oms/smartway/](http://www.epa.gov/oms/smartway/)



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## **Fitzgerald Glider** **Runs Like a New Truck**

Rebuilt engine and remanufactured transmission cut substantial cost from the price, and there's no federal excise tax, either

**N**early everything about this dump truck is brand new, from its virgin tires to the wiring and gauges in the cab to its still-shiny Ox steel box. It's an FLD Classic built at the plant in Portland, Ore., and is titled from its year of manufacture, 2007. It drives like new, too. But crank over its engine and the faint blue clouds coming from its twin exhaust stacks say that the diesel under the hood is not one of the smokeless wonders made since January 2007 or even October '02.

That's the main point of this truck. It's assembled from a glider kit, so called because, like a glider airplane, it leaves the factory with no engine. That, plus a clutch and transmission, and sometimes axles, are added later at a facility run by Fitzgerald Truck Sales in

Crossville, Tenn. The major power train components are rebuilt or remanufactured, so they're long lasting but considerably less costly than new ones. Moreover, the Detroit Diesel Series 60 in this truck delivers better fuel economy than later diesels with exhaust-gas recirculation (EGR), saving additional money for its owner.

Those are compelling arguments for buying a glider-kitted truck or tractor, say the folks at Fitzgerald. And they're why the family-owned company has done well while the

**Badge above the grille says Freightliner and it is, built in 2007 at the FLD factory in Oregon. Fitzgerald in Tennessee installed the rebuilt Detroit engine and remanufactured Eaton Fuller transmission. Yellow paint, dual chromed stacks and lots of bright-metal trim dress up the truck nicely. Steel box is from Ox Body.**





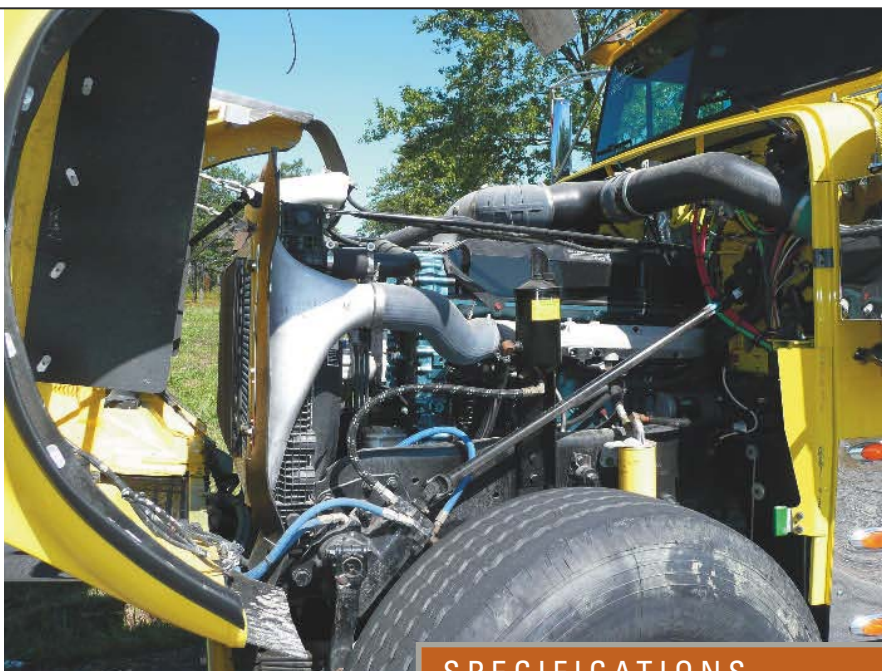
**Covington Detroit Diesel in Nashville rebuilt the 12.7-liter Series 60 with new parts; only the block and crankshaft are used. It meets EPA's 1998 emissions limits, so it smokes a little but will burn less fuel than a new one.**

rest of the truck-building industry has fallen precipitously since the economic slowdown became a recession, and then a crisis caused by mortgage and investment fiascos. Fitzgerald has sold more than 200 trucks and tractors in each of the last two years, making it the largest builder of gliders in the country, according to Tommy Fitzgerald Jr., co-owner (with father Tommy Sr. and three brothers) of the business.

The company has also done Peterbilt, Sterling and Western Star gliders. But most are Freightliners, and if Fitzgerald were a dealer, it might be one of the biggest in the USA. In addition to the Classic-based dumpers, the shop crew assembles Columbia and Coronado tractors, some of them daycabs but most with big sleepers, and on the lot along Interstate 40 about an hour east of Nashville is a big selection of completed vehicles.

The inventory when I visited last September included this bright-yellow Classic dumper, and salesman Danny Reneau walked me out for a look-see. As I said a few paragraphs ago, the truck looks and feels new because most of it is. The doors slam solidly, the seats feel firm and unspoiled, all glass is crystal clear, and the cab's interior smells fresh. The blue smoke at start-up faded as the engine warmed and, while the exhaust still had the characteristic diesel odor (most of it from NOx, which is all but eliminated in current diesels), it meets federal EPA limits for 1998.

This engine is typical of those used in most Fitzgerald gliders — a 12.7-liter Series 60 that's been rebuilt by Covington Detroit Diesel in Nashville. (Fitzgerald gliders can also be had with rebuilt Cummins N14s and Caterpillar C-15s, all pre-EGR, like the Series 60s.) This engine was set at 500 horsepower



and 1,650 pounds-feet, which was one of Detroit's strongest ratings in the late '90s. It was plenty gutsy on a pleasant half-hour drive on nearby county and state highways, and I'm betting it would propel the truck well with a heavy load in the box. All Series 60s (even current ones with particulate filters) make a nice, throaty note as they exhale, and this one was a delight to my ears.

The remanufactured Eaton Fuller 13-speed transmission was only a bit stiff — pretty much like new — and I could do clutchless float shifts much of the time. Its top ratios were overdrives and, with 4.11 gears in the rears, the engine loafed along at 1,500 rpm at 65 mph. Though unladen, the stiffly sprung suspensions allowed the truck to ride well, at least for me, as I had the air-ride driver's seat. Reneau bounced a bit in the solid-mounted passenger seat, but he didn't complain because like me, he's old enough to remember when trucks really rode hard.

The 16-foot Ox box is among several dump bodies available and is installed complete with a hoist, wet tank for hydraulic fluid, and transmission-mounted PTO to run the pump. Dump controls were on the cab floor between the seats. This long chassis was set up as a 10-wheeler, usable in bridge-formula states, and there's room on the frame for a

## SPECIFICATIONS

**Truck:** Freightliner FLD Classic glider, conventional-cab for on/off-road service, BBC 120 inches, assembled by Fitzgerald Truck Sales ([www.FitzgeraldGliderKits.com](http://www.FitzgeraldGliderKits.com) or 866-597-3836)

**Engine:** Rebuilt Detroit Diesel Series 60, 12.7 liters (776 cubic inches), 500 hp @ 2,100 rpm, 1,650 lbs.-ft. @ 1,100 rpm, with engine brake

**Transmission:** Remanufactured Eaton Fuller RTL016713A, 13-speed-overdrive

**Front axle:** 20,000-lb. Meritor FL941 on 20,000-lb. taperleafs

**Rear axles:** 46,000-lb. Meritor RT46-160P w/4.11 gears and locking differentials, on 46,000-lb. Chalmers 800-46 mechanical suspension

**Wheelbase:** 227 inches

**Brakes:** Meritor S-cam w/Meritor Wabco ABS

**Tires & wheels:** 425/65R22.5 Michelin X front, 11R22.5 Michelin XDY3 rear, on Alcoa polished aluminum discs

**Fuel tank:** 80-gallon polished aluminum, right side

**Body:** 16-foot, 14-16-yard Ox steel end-dump



# Hands-On Trucking



**Cab and everything in it are new, as is the entire chassis. FLD Classic is a pleasure to drive.**

pusher axle for some axle-weight states. Fitzgerald can also get frames to accommodate multi-axle configurations.

This was a “rolling” glider that came from the factory with new Meritor rear axles and the Chalmers suspension. Rebuilt or reman’d axles could also be fitted and this would further reduce the purchase price. As it sat the truck listed at about \$105,000, but in January Reneau said it had been discounted to \$97,500, primarily because it had been in stock for a while. A glider that meets Internal Revenue Service guidelines also avoids the 12 percent federal excise tax (FET) on new Class 8 trucks, which is a big chunk of saved change.

Fitzgerald has customers in many parts of the country, some as far away as California. Two Freightliner dealers in Tennessee and another in Michigan sell these gliders, and a few dealers assemble gliders themselves and promote them locally. Yet they remain largely unknown, which is partly why more truckers don’t buy them. But the word’s getting around, Reneau says, especially because new diesels have gotten so expensive to buy and run, and ’02 and later models were in some cases troublesome.


But for all their financial advantages, gliders present question marks. For starters, how well does a dealer assemble them?



**Fitzgerald also assembles Freightliner Columbia and Coronado tractors, with and without sleepers, and has produced tractors from Peterbilt and Western Star kits.**

“Workmanship is very important,” Reneau agreed, because in addition to the mechanical assembly there are many electrical and electronic hookups. What’s the resale value of a glider? Official used-truck valuations don’t spell this out, but “in the last couple of years it’s actually been as good or better than anything, primarily because of the fuel economy,” which is 1 to 2 miles per gallon better than trucks with EGR diesels, he said. And if the truck is still under a third-party warranty that Fitzgerald sells, which a long list of dealers and shops honor, there is some peace of mind.

Emissions regulations might become a concern later. California’s Air Resources Board has passed regs requiring that diesel particulate filters be installed on older trucks that don’t have them, starting in 2011. Detroit Diesel now has no retrofit program; one that does is Cummins Emissions Solutions, which quoted a price of \$9,500 to \$10,500 for the high-tech filter, plus installation at \$600 to \$1,000. What you saved on the FET would pay for that, though you’d want assurance that the engine would still perform well.

Freightliner is developing a replacement for its FLD Classic and FLD-SD series, which has been in production since the mid-1980s, and it should be ready in January. It hasn’t said what the truck will look like or be called, or if it will be available as a glider, like the Classic. It will if Fitzgerald has anything to say about it. In the meantime, buy one of the current models, put a driver in it, and he might never realize that it’s anything but new. You’ll know, though, when you write the check. 





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# Buying File: Full-Sized Pavers

By MIKE ANDERSON, Senior Editor

## A Never-Ending Path for Asphalt Pavers

Changes in the marketplace offer a different landscape only two years since last World of Asphalt

**O**n the verge of the previous World of Asphalt trade show two years ago, *Construction Equipment* surveyed the market landscape for full-sized asphalt pavers, those weighing 19,000 pounds and up. Two mere years would not seem enough time for change to an equipment type designed and built for the long term, but the marketplace does indeed offer some difference as the industry approaches World of Asphalt 2009, running March 10-12 in Orlando, Fla.

Market stalwarts Vögele, Roadtec, Caterpillar and Terex have continued to update their established product offerings. They are joined by Volvo, which, after acquiring the former Ingersoll-Rand product offering, has incorporated the old Blaw-Knox and ABG brands into the Volvo-branded family. Bomag, with its background in the smaller paver market,

moved into the 19,000-pound-and-up market with the introduction of the 20,500-pound, 8-foot-paving-class BF6615 one year ago at Conexpo-Con/Agg, where another brand, Lee-Boy, debuted its 33,000-pound 9000 Rubber Tire model. Conversely, a long-time world force in full-sized asphalt pavers, Dynapac responded to the *Construction Equipment* survey that it does “not have any of the pavers for sale in the U.S. at this time.”

Volvo's PF6000 Series of pavers builds upon the legacy of Blaw-Knox tech-

nology, but incorporates an auger system now independent of the conveyor system. Each of the two auger and conveyor drives uses sonic sensors designed for more precise handling of material. The conveyor system has chains that are automatically tensioned, and the conveyor chain cover cleans itself. Reversible augers and conveyors are optional equipment. To reduce maintenance costs, the hydrostatic, direct-traction drive system on Volvo pavers eliminates 70 percent of all mechanical drive-train components.

### What's new

The Vision Series, the next generation of Vögele full-sized asphalt pavers, was likewise introduced at Conexpo-Con/Agg by Vögele America, a member of the German-based Wirtgen Group. The Vision Series includes the 8-foot-class 5100-2 tracked and 5103-2 wheeled pavers, and the 10-foot-class 5200-2 tracked and 5203-2 wheeled units, each powered by Tier-3, six-cylinder Cummins QSB 6.7 engines. Vögele describes the Vision Series as “quieter, cooler and more productive than any competing pavers or Vögele America predecessor models. The Vision Series is a ‘clean-sheet’ design, although it incorporates time-proven Vögele Super Series technologies.”

Operator stations on Vögele Vision Series pavers swing out from both edges of the machine, for visibility to the sides, behind and into the hopper. At the same time, the control console swivels, tilts, and slides from one side of the paver platform to the other. The self-tensioning conveyors of the Vision Series machines have hydraulic cylinders that keep them adjusted. Like the self-diagnostics, the self-tensioning conveyors are designed to allow the crew to spend less time on the paver



Vögele America's introduction of the Vision Series 8- and 10-foot-class asphalt pavers has been one of the major developments in the North American asphalt paver market.





Utilized as either a material transfer vehicle, above, or a Remix Anti-Segregation System asphalt paver, the Terex CR652RM has been updated with a variable-pitch, in-hopper auger design that increases machine throughput. The design enables the RoadMix machine to match or better production rates of conventional slat pavers while virtually eliminating segregation.

and more time placing hot-mix asphalt. Vision Series pavers have independently operated hopper wings allowing one side or the other, or both, to be dumped at the same time. With the new models, Vogele has eliminated flow gates and implemented independent conveyor and auger drives. Augers and conveyors are reversible.

On the tracked Vision Series 5200-2 model, a strike-off plow or plate is located at the front of the machine, in front of the rubber tracks. The mechanically lowered device keeps the machine from going over a hump of material, or getting asphalt mix in the tracks. An optional hydraulic front apron eliminates a great deal of shoveling required in front of the paver by preventing the forward spilling of mix. As the hopper closes, the front apron rises, incorporating a long-time Vogele design from overseas.

Just prior to Conexpo-Con/Agg, Astec-owned Roadtec replaced the 8-foot-class RP-150 wheeled and RP-155 tracked models with the new RP-170 and RP-175 models, leveraging a 12-percent increase in horsepower delivered by Tier-3 Caterpillar C6.6 ACERT engines. A slide-out seat design and operator control layouts previously introduced on Roadtec's 10-foot-class models are standard on the new 8-foot-class machines. New hydraulically driven cooling fans result in qui-

## The Cost of Ownership

Tracked Pavers (Size)	List Price	*Hourly Rate
19,000 - 24,999 pounds	\$194,293	\$108.08
25,000 - 28,999 pounds	\$260,128	\$154.48
29,000 - 34,999 pounds	\$411,447	\$225.57
35,000 pounds and up	\$508,420	\$262.37
Wheeled Pavers (Size)	List Price	*Hourly Rate
19,000 - 28,999 pounds	\$341,878	\$171.47
29,000 - 34,999 pounds	\$362,160	\$190.37
35,000 pounds and up	\$416,111	\$234.30

\* Hourly rate represents the monthly ownership costs divided by 176, plus operating cost. Adjusted operating unit prices used in the calculation are diesel fuel at \$2.29 per gallon, mechanic's wage at \$45.39 per hour, and money costs at 5.125 percent.

Source: EquipmentWatch.com, phone 800/669-3282

eter-operating machines.

A year ago, Caterpillar itself rolled out the C6.6 ACERT-powered AP600D, an 8-foot-class wheeled paver that can be equipped with front-wheel-assist or all-wheel-drive options. For better traction, the front-wheel-assist feature provides power to the front bogey wheels, and the all-wheel-drive option provides power to the front and rear bogie wheels. Caterpillar's dual swing-out operating stations with tilting consoles offer five different positions to enhance viewing in and around the machine and the jobsite. An Advisor Monitoring System located on the left operator station provides the operator with such tools as project-planning calculators, start-up checklists and engine operating parameters. The system also lists fault codes for machine functions.

# Buying File: Full-Sized Pavers

## Paver Specifications (19,000 pounds and up)

Model*	Operating Weight (lb.)	Basic Screed Width	Max. Paving Width	Hopper Capacity (tons)	Gross Engine Output (hp)	Undercarriage Type
Bomag BF6615	20,500	8'0"	15'0"	9	99	Steel Tracked
Volvo ABG 2820	20,922	4'11.1"	13'1.5"	6.6	86	Steel Tracked
Volvo PF161	23,000	8'0"	19'0"	9.8	107	Wheeled
LeeBoy 8816	25,000	8'0"	15'6"	10	130	Steel Tracked
Volvo PF2181	27,650	8'0"	21'0"	11	158	Wheeled
Terex CR352L	28,760	8'0"	20'0"	10	160	Wheeled
Volvo PF3172	29,870	10'0"	21'0"	11.4	158	Wheeled
Terex CR362LS	30,335	8'0"	20'0"	10	160	Steel Tracked
Terex CR362L	31,450	8'0"	20'0"	10	160	Rubber Tracked
Volvo PF4410	31,500	8'0"	25'0"	8.5	158	Rubber Tracked
Vogele Vision 5103-2	31,700	8'0"	15'0"	12	170	Wheeled
Vogele Vision 5100-2	32,600	8'0"	15'0"	12	170	Rubber Tracked
LeeBoy 9000 Rubber Tire	33,000	8'0"	15'6"	11	173	Wheeled
Dynapac F 121 W	33,069	8'2.4"	16'4.8"	n/a	158	Wheeled
Dynapac F 121 WD	33,069	8'4.8"	29'0"	n/a	163	Wheeled
Dynapac F 141 WD	33,069	8'4.8"	24'0"	n/a	188	Wheeled
Terex CR452	34,595	10'0"	28'0"	14	220	Wheeled
Barber-Greene BG230D	35,310	8'0"	20'2"	n/a	130	Wheeled
Caterpillar AP800D	35,310	8'0"	20'2"	n/a	130	Wheeled
Roadtec RP-170	36,300	8'0"	16'0"	11	174	Wheeled
Terex CR452RX	36,395	10'0"	28'0"	14	220	Wheeled
Caterpillar AP600D	37,251	8'0"	20'2"	n/a	173.5	Wheeled
Terex CR462S	37,325	10'0"	28'0"	14	220	Steel Tracked
Barber-Greene BG225C	37,455	8'0"	20'2"	n/a	130	Steel Tracked
Caterpillar AP650B	37,455	8'0"	20'2"	n/a	130	Steel Tracked
Terex CR552	37,470	10'0"	30'0"	16.7	260	Wheeled
Dynapac F 141 CR	38,139	8'4.8"	29'0"	n/a	197	Rubber Tracked
Roadtec RP-175	38,600	8'0"	16'0"	10	174	Rubber Tracked
Terex CR562S	38,640	10'0"	30'0"	16.7	260	Steel Tracked
Terex CR462	38,700	10'0"	28'0"	14	220	Rubber Tracked
Barber-Greene BG260D	39,320	10'0"	24'2"	14.5	224	Wheeled
Caterpillar AP1000D	39,320	10'0"	24'2"	14.5	224	Wheeled
Dynapac F 161 W	39,683	8'4.8"	28'10.8"	n/a	197	Wheeled
Caterpillar AP655D	39,727	8'0"	20'2"	15.5	173.5	Rubber Tracked
Terex CR552RX	39,970	10'0"	30'0"	16.7	260	Wheeled
Volvo ABG 7820	40,170	8'2.4"	32'10"	14.9	231	Steel Tracked
Terex CR562	40,415	10'0"	30'0"	16.7	260	Rubber Tracked
Terex CR462RX	40,500	10'0"	28'0"	14	220	Rubber Tracked
Vogele Vision 5203-2	40,500	10'0"	25'6"	15.7	240	Wheeled
Vogele Vision 5200-2	42,500	10'0"	27'11"	n/a	240	Rubber Tracked
Terex CR562RX	42,915	10'0"	30'0"	16.7	260	Rubber Tracked
Volvo PF6160	43,370	10'0"	26'0"	14.38	205	Wheeled
Volvo PF6170	43,670	10'0"	26'0"	14.38	205	Wheeled
Barber-Greene BG2455D	45,130	10'0"	24'2"	14.5	224	Rubber Tracked
Caterpillar AP1055D	45,130	10'0"	24'2"	14.5	224	Rubber Tracked
Vogele Super 1800-2 with Spray Jet	45,856	8'4"	16'5"	14.3	174	Steel Tracked
Roadtec RP-190	46,000	10'0"	17'0"	12	225	Wheeled
Roadtec RP-195	47,100	10'0"	17'0"	11.5	225	Rubber Tracked
Vogele Super 2100-2	47,180	8'2.4"	42'7.7"	15.4	244	Steel Tracked
Volvo ABG 8820	47,600	8'2.4"	42'8"	15.4	247	Steel Tracked
Volvo PF6110	47,614	10'0"	26'0"	14.38	205	Rubber Tracked
Terex CR662RM	48,300	10'0"	26'0"	16.7	260	Rubber Tracked
Vogele Super 1800 SF	55,116	8'4"	21'4"	14.3	187	Steel Tracked
Volvo ABG 9820	57,080	9'10"	52'6"	19.3	371	Steel Tracked
Roadtec SP-200	62,500	10'0"	19'6"	11	200	Steel Tracked

\* Models listed may not be actively marketed or promoted by manufacturers at this time, but do remain pertinent in the marketplace today according to the industry experts at Spec-Check.com.  
Source: Spec-Check Expanded Specs (as of January / 09)



## The future?

Two years ago, much attention was afforded Terex Roadbuilding's then-recent offering of a combination material transfer vehicle/paver as part of the Cedarapids or CR product family. Dubbed a "RoadMix" model, the 48,300-pound CR662RM could be the wave of the future, "certainly from versatility and utilization standpoints," Terex paver applications specialist Bill Rieken said then. "The CR662RM has the same ground pressure as what a track paver has, and yet performs all the things a transfer vehicle would."

It's been a success, and in some cases an absolute thrill, Rieken says now. "I was on one job last summer in Ontario, Canada, where we used the RoadMix as a transfer vehicle and fed the RoadMix as a paver — the ideal scenario." That's not reality everywhere, but the perfect illustration of what is possible with the CR662RM, he says. "Everyone's aware of its versatility and its utilization as either/or, and it probably has a lot to do with how the specs are written in each state how it's utilized, whether they consider it for use as both, or just one or the other. Most contractors have picked it as a transfer vehicle or as a Remix paver, with little thought of going back and forth, but being aware that they can go back and forth."

"For example, the contractors who windrow-pave look at the RoadMix as a paver only, because they have a continuous-paving process in place and it fits that process really well, and it brings the windrow paving process to another level with more uniformity of temperature," says Rieken. "There's still a truck exchange with windrow-paving, and so the RoadMix minimizes the impact of temperature differential, maintains uniformity of density, and gives them a better ride. They get a better end-result."


In Illinois, where the CR662RM was demo'd as both a material transfer vehicle and paver, Rieken estimates the split is about 70-30 in application, respectively. "They have a spec for transfer vehicle required on the top lift," he says, "and they are extending the jobs that require those transfer vehicles. What con-



tractors are finding is that they're having issues with temperature differential on truck exchange on the lifts where they are not required to use it. So they're using the machine as a paver on the lower lifts to minimize that truck exchange temperature differential without going to the expense of having a transfer vehicle, since it's not required, and then they convert it to a transfer vehicle for the final lift where it is required. So, over in Illinois, it's worked out just super to utilize it as both a paver and as a transfer vehicle."

Since the CR662RM's introduction in 2006, updates have occurred. A new, variable-pitch, in-hopper auger design increases material throughput via altered pitch spacing — transitioning from 10 inches in the front, to 11, and then to 12 in the rear. "It dramatically increased our throughput capabilities, as well as reduced our truck-unloading times, and it was a very positive improvement," says Rieken. "We've got some contractors that have larger plants and needed the extra production capabilities."

Other Terex paver upgrades include the boosting of load-bearing capacities on the 37,400-pound, 10-foot-class CR552 paver models. "We have a 500 Class insert in our hoppers that will hold 27 tons," says Rieken. "Where we really like to see the capacity is in the insert in the receiving hopper, rather than carrying it in a transfer vehicle. We feel that better achieves the uniformity of material temperature rather than having another storage van and transferring it — that just makes it more complicated."

Reducing complication is, indeed, the road mainline-paver manufacturers are surfacing these days. 

**As with other Caterpillar full-sized asphalt pavers, the largest AP1055D tracked model is available with the optional Cat Product Link wireless system designed to simplify the tracking of fleets to maximize uptime.**

# Gallery of Full-Sized Pavers



## CATERPILLAR

### D-Series Adds 8-Foot Wheeled Unit

Utilizing a wheeled undercarriage that can be equipped with front-wheel-assist or all-wheel-drive options, the AP600D 8-foot-class asphalt paver is the newest addition to the Cat Paving Products lineup, joining the 8-foot-class tracked AP655D and the 10-foot-class wheeled AP1000D and tracked AP1055D. At a screed-equipped weight of 38,000 pounds, the AP600D has dual operating stations featuring the Advisor display, as well as tilting consoles, a high-capacity cooling system, and a material-handling system with independent conveyor and auger controls. The AP600D can be fitted to the AS2252C or AS3251C screed, both featuring CANbus electrical systems interfacing with the Advisor display on the tractor. The optional Product Link system provides automatic machine location and hour updates used to schedule maintenance.

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## VOLVO

### Blaw-Knox Legacy Moves Forward

The 10-foot-class Volvo PF6000 Series of asphalt pavers is built on the legacy of Blaw-Knox technology, but also incorporates significant enhancements, including a redesigned undercarriage for improved traction. In addition, the auger system is now independent of the conveyor. Each of the two auger and conveyor drives uses sonic sensors for more precise handling of material. The conveyor system has chains that are automatically tensioned for proper performance and less downtime, and the conveyor chain cleans itself. Each of the PF6160 and PF6170 wheeled pavers and PF6110 tracked paver is powered by a 205-horsepower Cummins Tier-3 engine and equipped with a 30-kilowatt generator with four 100-volt outlets.

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## BOMAG

### Product Line Expands Upward in Size

Introduced on Conexpo-Con/Agg 2008, the BF6615 is Bomag's first offering of an asphalt paver above 19,000 pounds. The goal of developing this tracked machine, says Bomag, is to offer the power and capacity that commercial paving contractors need for larger, high-production paving projects. The BF6615's new-design Unimat 2 full-width floating screed has a standard 8- to 15-foot paving width. The screed is electrically heated, eliminating the need to change propane bottles in the middle of a large project. The unit's 9-ton hopper capacity allows high-production paving to continue between trucks. Even with its power saving system, the new paver can push asphalt feeder trucks while maintaining working speeds up to 180 feet per minute. Each of the track drives is bolted to a cross-member frame structure and can be removed individually for maintenance.

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# Gallery of Full-Sized Pavers

## TEREX

### New Auxiliary Pump for Multiple Uses



The entire Terex Road-building full-size asphalt paver product family is transitioning to the use of a higher-displacement auxiliary pump to facilitate the full use of multiple auxiliary functions at once, says Bill Rieken, paver applications specialist. Recently introduced, a variable-pitch,

in-hopper auger design increases material throughput for the CR662RM RoadMix, a popular Terex Cedarapids model that can be configured as both a material transfer vehicle and a full-sized paver. The new pitch spacing — transitioning from 10 inches in the front to 12 inches in the rear — more aggressively channels material to the rear for faster truck unloading. A new conveyor assembly features a stationary lift conveyor with flights every other pitch, compared to every third pitch previously.

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## VOGELE

### A New Vogeles 'Vision' Arrives

The next generation of Vogeles asphalt pavers, the four-model Vision Series was introduced to the North American market at Conexpo-Con/Agg 2008: The 10-foot-class tracked 5200-2 and wheeled 5203-2 models are joined by the 8-foot-class tracked 5100-2 and wheeled 5103-2 machines. While incorporating Vogeles Super Series technologies, the Vision Series pavers have a "clean-sheet" design. The slopes of the machine and hood allow the operator to see the sides, hopper and rear conveyors, without having to move around.



The operator's stations swing out from both edges of the machine, and the control console slides from one side of the platform to the other, and swivels and tilts. Self-diagnostics are built into the new-generation machines.

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## ROADTEC

### Pavers Work Cooler, Quieter

Replacing the RP-150 and RP-155 models, respectively, Roadtec introduced the 8-foot-class RP-170 rubber-tired and RP-175 rubber-tracked pavers in late 2007. As with the other full-sized pavers in Astec's Roadtec family, the pavers are equipped with Cat ACERT Tier-3 engines, in this case providing 174 horsepower or a 12-percent boost in output over the predecessor models. Fuel capacity has been increased by more than 40 percent, and the use of new hydraulically driven cooling fans provides a claimed average drop of 4 decibels in noise emissions. The new slide-out seat design and operator control layouts previously introduced on Roadtec's 10-foot-class pavers are standard on the new 8-foot-class models.

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## VT LEEBOY

### Rubber-Tire Model Joins Family Offering

A brand renowned for more compact equipment, LeeBoy rolled out a 33,000-pound rubber-tire paver, the 9000, at Conexpo-Con/Agg 2008. Now under the VT LeeBoy corporate entity, LeeBoy offers with this new model an 8-foot, electrically heated screed system, and a transversely mounted, low-profile Cat Tier 3 engine which, at 173 horsepower, is able to easily push larger tandem-axle trucks. A fume ventilation system pushes asphalt vapors away from the operator and screen areas. As with the 25,000-pound LeeBoy 8816B tracked paver model, the 9000 Rubber Tire offers variable paving width up to 15 feet 6 inches. The 8816B, powered by a 130-horsepower Cummins engine, features the heavy-duty, heated and vibrating Legend screed system.

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# Vibratory Plate Compactors

## DOOSAN

Powered by a Honda GX240 four-cycle gasoline engine, the 518-pound Ingersoll Rand BXR-200H reversible vibratory plate compactor offers 7,053 pounds of centrifugal force and 18-inch compaction depth. It can cover 5,230 square feet per hour. Engaging a single lever triggers the

compactor's reversing feature, enabling the operator to enter and exit a confined area along the same path. Its newly introduced sibling, the BXR-60H, is smaller at 158 pounds and provides 3,417 pounds of centrifugal force.

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## WEBER MACHINE

Weber has redesigned the CR 3 reversible soil compactor, which now produces reduced lower hand/arm vibrations and reduced noise level. The adjustable handle bar also accommodates operators of various heights. At 500 pounds, the CR 3 delivers 7,650 pounds of centrifugal force and working speed of 66 feet per minute thanks to the Honda GX 270 or Hatz 1 B 20 engine. Optional are 20- and 24-inch extension plates.

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## MULTIQUIP

Multiquip built the MVC82 one-way plate compactor for work in confined work areas, such as trenches and around retaining walls. The compactor's 4.8- to 5.7-horsepower engine produces centrifugal forces of up to 3,080 pounds at a maximum working speed of 72 feet per minute. Equipped with a flip-over handle and four side-mounted grab handles, the MVC82 can be transported with ease.

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## VIBCO

The mid-sized VR-18 reversible plate compactor, powered by a 4-horsepower Honda engine, produces 3,000 pounds of centrifugal force. An all-mechanical drive lever offers consistent speed in both forward and reverse. The rounded sides help avoid dig-down, and a water tank can be added for asphalt compaction.

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# Spotlight

## BOMAG

The largest of Bomag's reversible vibratory plates, the BPR100/80D was built for large projects. It features a 14.75-horsepower Hatz air-cooled diesel engine, a maximum working speed of 88.6 feet per minute, and gradability of 35 percent. Also included is Bomag's Economizer system, which detects soil stiffness to provide an overview of soil compaction status, allowing faster job completion.

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## WACKER NEUSON

With a baseplate made from tough, wear-resistant ductile iron for high strength and shock resistance, the WP 1540W weighs 190 pounds and produces 3,375 pounds of centrifugal force. The 6-horsepower WM 170 engine propels the compactor to speeds of up to 100 feet per minute, or 6,590 square feet of asphalt per hour. Also featured is a large water filter inside of the large-capacity water tank that prevents clogging during operation and can be easily removed for cleaning.

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## DYNAPAC

The LX90 vibratory plate compactor features a round base that allows flush compaction next to posts, pillars, guardrails, manholes, drainage inlets and foundations. Its design makes it easy to maneuver around obstacles. Its upright design allows for compaction in confined areas and radial forms.

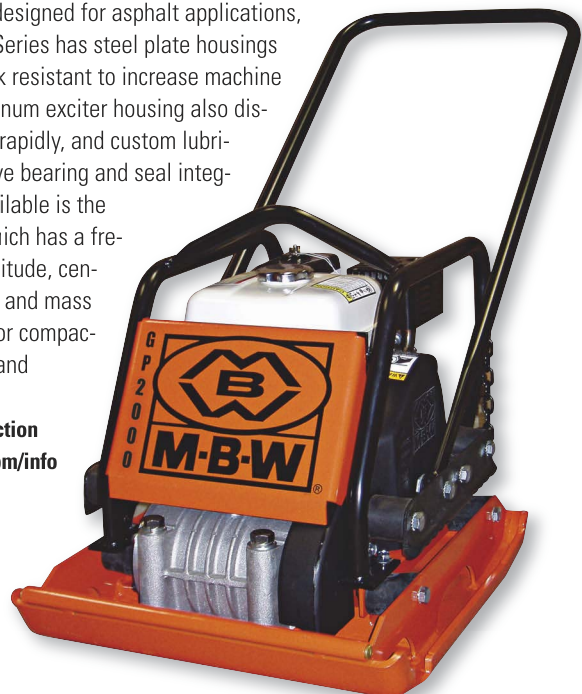
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## M B W

Specifically designed for asphalt applications, the AP2000 Series has steel plate housings that are crack resistant to increase machine life. Its aluminum exciter housing also dissipates heat rapidly, and custom lubricants preserve bearing and seal integrity. Also available is the AP2000S, which has a frequency, amplitude, centrifugal force and mass best suited for compaction of sand and gravel.

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# Three Goals for World-Class Management

A top-notch equipment operation starts with the search for excellence, but there are three goals to be reached to actually be excellent

Some time back, a farsighted and successful construction-company owner asked me a simple, direct question: “Mike, I want a world-class equipment operation; what must I do to get there?” It is the kind of question that has caused his company to be successful. It sets a vision and provides a focus. It is also the kind of question that causes panic. Surely, I must be able to define the essence of a world-class operation?

My on-the-spot response has stood the test of time. I have refined it a little, but there are three areas of excellence that define a world-class equipment operation.

First, you have to maintain a laser focus and achieve undeniable success in all the actions needed to prevent breakdowns and unplanned failures. You have to be proactive, get ahead of the breakdown curve, and stay there. Excellence emphasizes quiet success rather than crisis management, and you must have the courage to practice what you preach when you say that prevention is better than cure.

Second, you have to know your costs with confidence and accuracy. You can manage a fleet and make decisions based on intuition and experience, but success in a competitive, fixed-price-driven business world demands more. You must know what it costs to own and operate equipment, and you must move beyond decisions based on prejudice and personal choice.

Third, you have to minimize and conserve the capital invested in the fleet. Construction is a capital-intensive business; a company can only be successful if it optimizes the use of capital as a scarce and expensive resource. Excellence demands that every dollar of capital invested in the fleet produces a safe, consistent and competitive return.

The accompanying diagram shows how the three areas of excellence are closely interrelated. If you are proactive and prevent unexpected breakdowns, then it will be possible

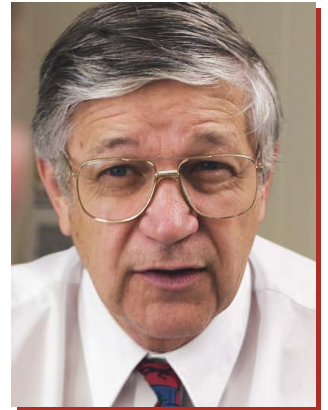
to know your costs and extend economic life to the optimum. If you know your costs, it is possible to minimize and conserve capital resources and vice versa.

Knowing what is needed for excellence is not enough. You must know what to do and how to get there.

## Prevent failures

The first requirement is a nonnegotiable, systematic, disciplined and thorough scheduled preventive-maintenance program. Actions should be planned, performed and verified using appropriate checklists. Nothing should be left to chance. Scheduled preventive maintenance is, however, not enough. Excellence demands the implantation of a condition-based maintenance program that reaches out, listens to machines, and gathers condition data so that components can be replaced with planning and foresight rather than conflict and confusion. Tire, undercarriage and other routine inspection programs are commonly used when signs of damage or wear are visible. Oil analysis, vibration, sound and temperature are used when wear and impending failure are hard to detect. Condition-based maintenance actions can be planned so as to coincide with the next scheduled maintenance or they can be performed on their own when the nature of the work and the urgency justify the additional downtime.

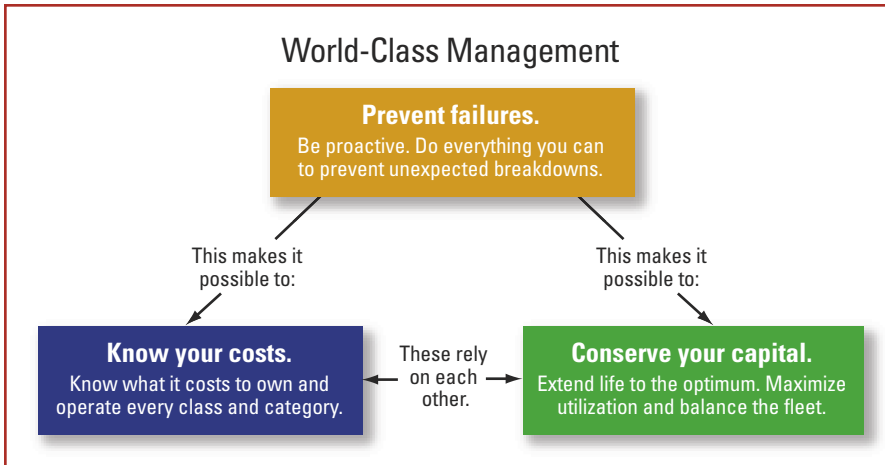
Companies that do not measure downtime and reliability are unable to determine whether or not their maintenance programs are effective and invariably do the bare minimum needed to change oil and progress toward the next disruptive failure. As with everything, success demands that results are measured and continuously improved. World-class maintenance operations get there and stay there by using metrics that measure both the frequency and the severity of unplanned downtime. They seek zero. It is an elusive goal.



**Mike Vorster**

David H. Burrows Professor of Construction Engineering and Management at Virginia Tech. See [ConstructionEquipment.com](http://ConstructionEquipment.com) for full archives of “Equipment Executive.”

*If you do not know costs, the majority of decisions will depend on gut feel, and it will be impossible to succeed in a world where everyone is increasingly required to set and achieve finely tuned financial targets.*



**These three areas of excellence interrelate. Preventing unexpected breakdowns enables the manager to know costs. Known costs help to minimize and conserve capital resources.**

## Know your costs

If you do not know your costs, you are lost on the dark sea of uncertainty. The vast majority of decisions will depend on gut feel, and it will be impossible to succeed in a world where everyone is increasingly required to set and achieve finely tuned financial targets. Knowing what it costs to own and operate equipment and being able to predict future costs lies at the heart of every successful equipment operation.

It is not sufficient to know that the equipment account is, as a whole, making or losing money. Many machines of different classes and categories contribute to the revenue and the cost side of the account, and the final number is often the happy coincidence of good luck in one area and bad luck in another. The first step in successful cost management is therefore to split the fleet into clearly defined equipment classes and categories and to ensure that each class or category meets budget expectations in at least four principal cost types: owning costs, operating costs, fuel and overhead. Nothing is achieved if a fuel budget over-run in the heavy-excavator class is masked by an under-run caused by exceptional utilization in the haul-truck category. Even less is achieved if budget over-runs caused by an inability or reluctance to report hours worked in the light-vehicle category are masked by budget under-runs in the light dozer class, and if everyone goes home believing the equipment account is "well managed."

Successful cost management focuses on balancing the actual costs of each class of equipment with the revenue generated by multiplying hours, days or months of utilization by an appropriate unit rate. The actual costs and the actual utilization are facts of life; therefore, the unit rate is the only thing that can be adjusted to achieve the required balance. Adjusting the unit rate so that cost and revenue

match for every class and category of equipment is not simple. It is, however, necessary if you are to know your costs and use them with confidence and reasonable accuracy in estimating. World-class companies seek and achieve variations of less than 10 percent for all major classes and categories.

## Conserve your capital

Every time I see a machine with a \$60,000 residual market value forlornly parked with no work to do, I imagine a phone call from the bank to the CFO in which the bank tells the CFO that they have just taken

\$60,000 from an interest-bearing account and put it into an account that pays a negative interest rate of 5 percent per year. That is exactly what happens when equipment stands idle. Every machine represents a substantial investment of capital; and every investment must earn a safe, sustained and competitive return.

There are two dimensions to the problem. First, the amount of capital invested in the fleet and, second, the cost of that capital. Success requires that both be addressed.

The amount of capital employed in a fleet is dependant on the utilization of the fleet and the average age of the fleet. Utilization is not a given and is not outside the control of the equipment manager. Successful companies constantly adjust the age, size and balance of their fleets to accommodate change in the nature and volume of the work they perform. Their plans and work loads are well known, their decision making is nimble, and equipment is only kept in the fleet for strategic purposes when there is absolutely no alternative. Machines are not kept "because we own them," and every idle machine, whether it is fully depreciated or not, is seen as a lost investment opportunity.

The cost of the capital employed must also be measured, managed and minimized. Equity, your own funds invested in the machine, is not free. It ties up precious working capital, and the returns must be sufficient to attract additional investment and keep the business growing. Debt certainly is not free and is limited by covenants on the debt-to-equity ratio. Leases, despite apparent advantages, carry their own cost and significantly increase fixed-cost risks. Successful companies carry a portfolio of financing alternatives to spread risk and reduce cost. More especially, they know it is a capital-intensive business and keep their investments working.



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# Tier 2 Brings Cost-Cutting Features to the 785D

New 3512C HD engine matches short-stroke predecessor's fuel efficiency and power, promises improved life

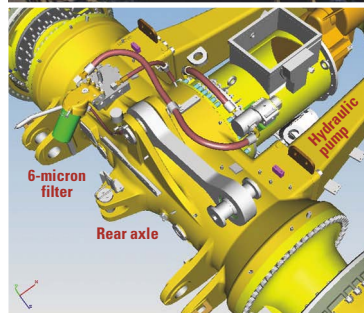
In the transition to Tier 2 emissions compliance, Caterpillar matched performance of the new Cat 3512C HD engine powering the 150-ton mechanical-drive 785D to that of the mining truck's predecessor, making the 785D a drop-in replacement for mines using the 785C. Along with component commonality to make the transition easier for mine managers, Cat upgraded the rear-axle filtration and brake friction disks to make the standard model run more cost effectively.

Cat claims the 3512C HD (high-displacement) engine retains the fuel efficiency of the short-stroke 3512B engine it replaces, making 1,348 net horsepower at 1,750 rpm just like the 3512B. Senior marketing rep for mining trucks, Jeff Taylor, points out that the high-displacement engine generates the power without working as hard. The new engine complies with U.S. EPA Tier 2 emissions standards, and Cat says it operates at altitudes up to 14,000 feet without derate.

The dual-slope body standard on the 785D offers the same capacity as the 785C, but the new truck weighs nearly 1.5 tons more than its predecessor. With gross vehicle weight capped at 550,000 pounds, the 785D has a nominal payload about 1.5 tons less than the 785C.

Caterpillar also introduced the X body as an option with the 785D. The new body provides more volume — 111 cubic yards compared to the dual-slope body's 102 cubic yards. The Mine Specific Body (MSD II) and gateless coal body are also choices. The canopy of each of the bodies extends farther to protect the cab better.

The 785D has improved catwalks and a 600-millimeter diagonal stair.



**Above:** The high-displacement engine in the 785D generates the same power as its short-stroke competitor (up to 14,000 feet with no derate) but doesn't work as hard.

**Inset:** Continuous flow of rear-axle lube through a 6-micron filter is intended to maintain ISO 18/15 cleanliness and extend drive-train life.

Caterpillar aimed to improve rear-axle life by upgrading filtration on the 785's rear axle lube. A hydraulic pump runs independent of ground speed, and continuous flow through the 6-micron filter is intended to maintain ISO 18/15 cleanliness. Lubricant volume supplied to the differential is increased, especially on an uphill grade when the axle is working the hardest. Cat says the improved cleanliness and lubrication should slow component wear, improving power-train life.

Caterpillar also made its extended-life brake friction material — a popular option on mining trucks — standard equipment on the 785D. Cat says the glazing-resistant discs can last twice as long as standard brakes. And radial-seal air filters, which have proven to keep more contaminant out of other Cat equipment over the years, replace wing-nut-retained filters.

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## Vermeer Expands Quad-Track Availability

Introduced with large RTX1250 ride-on trencher, traction-improving system is now offered on utility-friendly RTX750 model

**W**ith relatively no break-over point providing full tractive power to all four tracks, the quad-track system on an underground installation machine further offers maneuverability features associated with rubber-tired units, such as tilt and crab steering.

But how about for us, too, asked utility companies not requiring the 110 net horsepower or 13,600-pound-plus base weight of the Vermeer RTX1250 or the follow-up dedicated-steel-tracked XTS1250 model?

Amidst a plethora of product introductions during the company's 60th-anniversary celebrations over the past year, Vermeer introduced the 67-net-horsepower RTX750 with a specialized undercarriage system accommodating either

rier and backhoe attachments. The operator's station rotates 90 degrees for improved visibility of the rear attachment. Located within easy reach on the right side of the operator's station, attachment controls rotate with the operator.

"Once a customer puts either tires or tracks on, that's usually what they keep on the machine. Can they change over? Absolutely, but it's going to take a little more work," says Kuyers.

Equipped with planetary axles, the RTX750's ground drive system operates at low torque levels. The operator can engage the differential locks with the push of a button when added traction is required.

With the RTX750 in production and being delivered to customers, the "response has just been fantastic," says Kuyers. "The machine as a vibratory plow on quad tracks can produce as great as some of the larger machines on rubber tires because of the extra tractive effort that's generated."

Vermeer has in the past offered models in the size class, but the quad-track design requires a new approach to the use of the attachments, says Kuyers, so essentially the RTX750 is a new product offering for the company.

Depending on the options chosen, the RTX750 ranges in price from \$80,000 up to about \$120,000.

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### Basic Specs: Vermeer RTX750\*

Weight	9,330 lb.
Length	133"
Width	78.5"
Ground Clearance	12"
Engine Cummins	B3.3TAA
Net Power	67 hp
Transport Speed	5 mph
Ground Pressure	3.75 psi
(with Trencher, Backhoe)	5.23 psi

\* General dimensions with tracks and six-way backfill blade

rubber tracks or tires. The undercarriage is designed to distribute torque equally to all tires/tracks for reduced turf damage, axle stress and tire/track wear.

"Our customers were saying: 'We just need something a little bit smaller than the 1250 for the type of work we do, but we see the advantages and the benefits of a quad-track machine, especially when doing service work, either curb-to-house or smaller installations where the depth requirements aren't quite as great,'" says Jon Kuyers, Vermeer utility products segment manager.

Described as a true utility installation machine, the RTX750 is available with a vibratory plow, trencher, sliding offset trencher and combo trencher/plow, as well as reel car-



The quad-track Vermeer RTX750 features a one-piece automotive-style hood, which maximizes visibility during backfilling and transport.

# Market Watch Lite

By KATIE WEILER, Managing Editor

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## ▶ Caterpillar

The HM315 mulcher for Caterpillar skid-steer loaders, multi-terrain loaders, and C-Series compact track loaders boasts a 57-inch cutter head and 72-inch overall width. Its high-speed rotor, with 34 tungsten carbide teeth, efficiently cuts through vegetation, the company says. Three sets of counter-rotating knives help mulch materials more effectively, and the mulcher can process brush as large as 8 inches in diameter.

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## ▶ Miller Electric

Miller Electric XMT 350 MPa multi-process inverter has built-in pulsed MIG capabilities. MPa designation stands for "MIG, Pulsed, advanced arc controls," meaning the unit gives the operator control over weld puddle fluidity, weld bead profile, and arc length. A MIG operator can use pulsed MIG, says the company, as the XMT 350 MPa automatically makes all pulsing adjustments. The unit weighs 80 pounds and provides a 5- to 425-amp output.

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## ▶ ExxonMobil

The new generation of ExxonMobil's Mobil DTE 10 Excel Series hydraulic oil is designed to handle the lubrication requirements of both industrial and mobile high-pressure hydraulic systems. It exceeds industry specifications including Denison HF-O, Eaton M2950, CM P69 and P70, ISO11158 HV, DIN 51524, and JCMAS HK-1. In laboratory and field demonstrations with a range of modern hydraulic systems, Mobil says its DTE 10 Excel "demonstrated exceptional oil life, outlasting competitive fluids by up to three times, all while maintaining hydraulic system cleanliness and component protection."

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## ▶ Terex

Terex has added to the Super Quiet family of generators with three new models aimed at the rental market. Depending on use of electronically controlled Cummins or Perkins engines, a choice available for each model, the T70, T90 and T120 have prime power ratings ranging 74 to 120 kVa. The base on each of the three mobile generators provides 110 percent spill containment of all on-board fluids, including fuel, coolant and oil. The units come standard with a permanent magnet generator for a quicker response to changes in loads. The fuel capacity provides 24 hours of continuous operation per single tank of fuel.

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## ▶ Detroit Diesel

The new 12.8-liter DD13 weighs 2,200 pounds and makes as much as 450 horsepower and 1,650 lbs.-ft. The builder says the new engine is up to 5 percent more fuel efficient than the one it directly replaces, the MBE 4000. DD13 can be fitted with a rear- or front-engine PTO, and claims easy maintenance and oil-change intervals as long as 50,000 miles. It'll be phased in for use in Sterling, Freightliner and Western Star trucks by the end of 2009.

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## ▶ Bernard Welding Equipment

MIG gun neck grip and neck coupler improve operator comfort and access to hard-to-reach joints, the company says. High-temperature silicone rubber neck grip slides onto all Q-gun and S-gun necks to reduce fatigue and increase control as operators rest the neck on their hand or forearm while welding. Grip shields hand or forearm from the heat of the neck. Neck coupler joins two or more gun necks consecutively, allowing operators to avoid ordering a custom neck.

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## ◀ Bobcat

Bobcat's heavy-duty snow blades feature blade oscillation, a trip edge and box-style mainframe. They come in 86-, 96- and 108-inch widths and are approved for use on Bobcat S130 to S330 skid steers, T140 to T320 compact track loaders, V417 VersaHandlers, and A300 all-wheel steer loader and Toolcat vehicles. A double-acting cylinder angles the blade 30 degrees left or right.

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## Market Watch Lite

### ▶ Strata

A pre-engineered solution for integrating fencing into retaining walls, Sleeve-It is an addition to Strata Systems' line of polymeric geogrid products that uses traditional cantilever technology for anchoring perimeter fences and guards to mortarless block retaining walls. Sleeve-It eliminates the 36-inch buffer zone mandated between fence posts and foundation required when post-holes are bored after wall construction is completed. Additionally, the system cuts out the risk of contractors compromising the integrity of a wall if a post-hole is bored directly into it.

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### ▼ Polecat

Polecat PC-750 pole-handling attachment for skid steer loaders has adjustable pivot points for precise gripping of all post sizes from 0 to 14 inches. An interchangeable arm system has a common hydraulic system to configure the attachment as a pole/post handler or a fully functional vertical grapple. A safety check valve system retains hydraulic pressure on cylinders in the event of hose failure.

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### ◀ Parker Hannifin

Portable Model TS051-0ABCBR TireSaver Nitrogen Tire Inflation System will produce 95-percent-pure nitrogen from standard compressed air. The computer-controlled tool uses a built-in auto inflator that purges and fills up to six tires simultaneously. The unit features a 30-gallon storage tank, pressure gauges to monitor inlet and outlet pressure, cart mounting for easy portability, a plastic bezel design to cushion accidental contact with vehicles, and a hand-held nitrogen analyzer.

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### ▶ Allmand Bros.

Incorporating a new fan-motor combination and increased static pressure, the upgraded Maxi-Heat portable heater from Allmand Bros. is able to accommodate up to 110 feet of 16-inch ducting, compared to the 40-foot maximum of the previous model. The Maxi-Heat features twin heater units that produce a maximum of more than 1 million BTU and may be operated independently. A standard 1,800-rpm liquid-cooled Isuzu diesel engine with a regulated generator provides power for the heaters and electrical accessories. A 191-gallon fuel tank allows for more than 24 hours of operation without refueling.


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- ☐ Sign up for our quarterly **Running Green** newsletter, where we'll keep you up to date with information on this ongoing issue.
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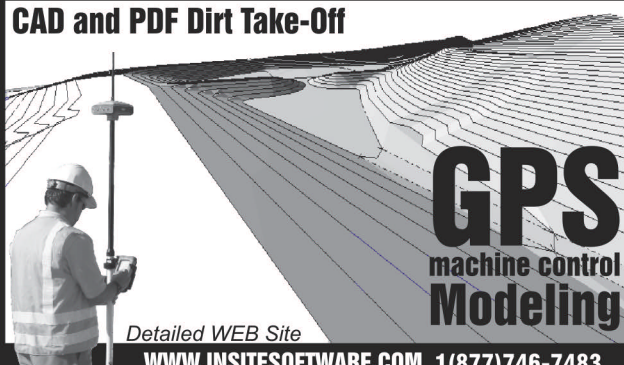
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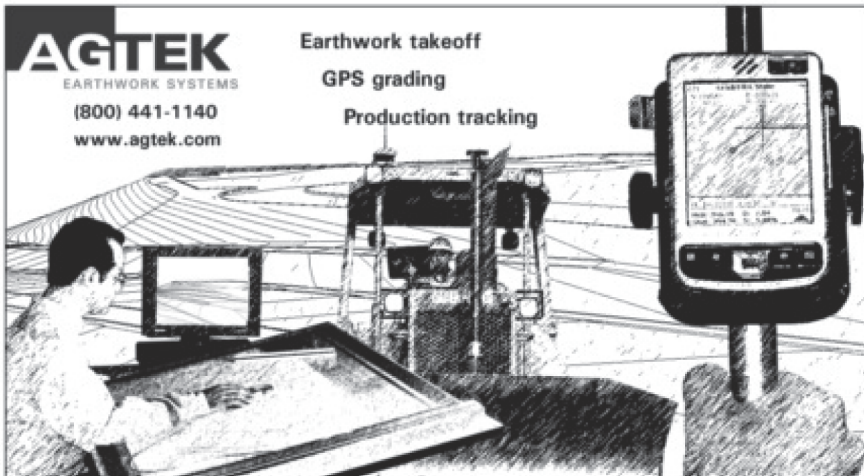
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Engine model	0.0	31.5	70.0	97.0
Net engine power - hp				
<b>DRIVE</b>	Hydrostatic	Hydrostatic	Synchromesh/Pwr Shift	Synchromesh/Pwr Shift
Transmission type	1/1	1/1	4/4	4/4
No. of speeds (fwd/rev)	5.5	4.7	24.5	20.8
Max. travel speed - mph	2WD	2WD	2WD/4WD	2WD/4WD
No. of drive wheels	2WS	2WS	2WS	2WS
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Hydraulic pump flow - gpm	8	11.7	28.5	43
Relief valve pressure - psi	2400	--	3050	3611
<b>BACKHOE</b>				
Backhoe bucket width range - in	12" - 36"	--	12" - 36"	12" - 36"
Max. dig depth, optional extended stick - ft/in	--	--	18' 3"	19' 6"
Loading height, standard stick - ft/in	7' 8"	--	11' 2"	13'

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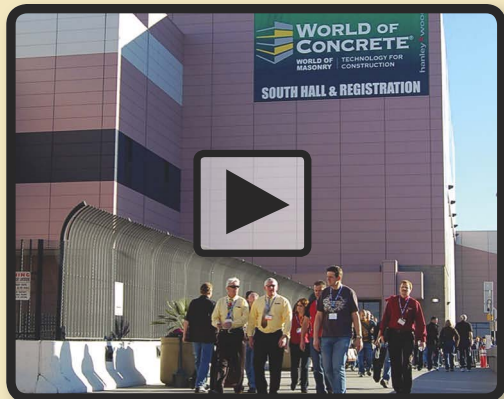
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## How Did World of Concrete '09 Shape Up?

The deteriorating economy has caused construction equipment spending to slide and forced some equipment manufacturers to pull out of trade shows this year. But with warm, sunny weather in Las Vegas in early February, combined with manufacturers' eagerness to sell products, World of Concrete 2009 appeared as big and as lively as ever, according to several fleet owners who attended. Other buyers, however, say that exhibitors did not have as wide an array of product offerings compared with previous years.

CE editors scoured the floors of World of Concrete for fleet owners and manufacturers willing to give their take on the this year's show and whether it lived up to their expectations. Find out what they said in this audio slide show.

## Schwing Launches S 55 SX Pump

Schwing's new S 55 SX concrete pump features a five-section boom, better fuel efficiency, and curved single-stage outriggers for faster set up. Watch Schwing's Tom O'Malley give a tour of the machine.

## Terex ASV Shows Off Compact Line

Terex ASV's Jodi Gulbraa walks us through the recently merged company's line of compact equipment, from the narrow-bodied PT-30 and robust PT-80 track loaders to the versatile ST-50 tracked utility vehicle.



## Find Funding to Retrofit Your Fleet

As California's emissions-compliance deadline draws nearer, fleets all around the country are scurrying to find ways to make their existing machines cleaner.

Alan Banwart of the EPA, Steve Dayton of the Texas Emissions Reduction Plan, and Allen Mitchell of Washington State's Snohomish County fleet, tell you how to upgrade your fleet — without breaking the bank — by applying for local, state and federal funding, and by creating partnerships with equipment manufacturers and other contractors.

## More Digital *Digest*

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