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20 Eight tips for safe rigging



Don't attach a hook to an eye bolt. Use a shackle instead.

24 Peterbilt boosts payload capacity, profits



39 Komatsu WA480-6 "torques" up performance



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July 2009
ConstructionEquipment.com

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Milling Machines: Market Ready

Stimulus fuels demand
for cold-planers p. 28



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CONSTRUCTION EQUIPMENT

July 2009 • Vol. 112, Issue 7

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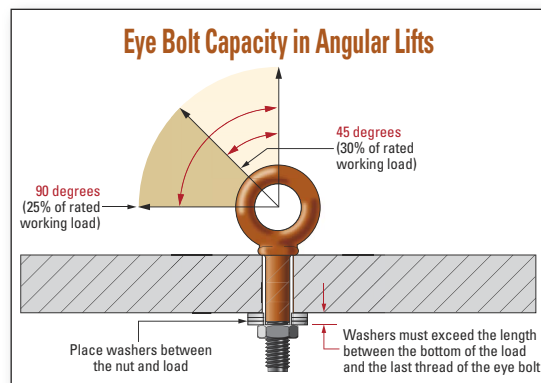
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FEATURES

SAFETY ILLUSTRATED

20 Safe Rigging Begins with Eye Bolts

Several components make up an effective yet safe rigging system. One slight mistake could spell disaster, resulting in the loss of an expensive load, lifting equipment, or even the life of a crew member. One of the most misunderstood pieces of rigging gear is also perhaps the most commonly used: the eye bolt. Riggers must follow the appropriate operating guidelines and review the load chart for each type of eye bolt before attaching them to a load.



HANDS-ON TRUCKING

24 Lightweight Petes Boost Bulk Payloads



Reliability and payload are everything for Dave Coover, owner of Coover Trucking, whose fleet of 14 tractors and pneumatic-tank trailers are kept busy hauling bulk cement for construction projects. That's why he runs eight efficient, lightweight, late-model Peterbilt 365 tractors like the one shown here. Its 410-hp Cummins ISM is the single greatest weight saver.

BUYING FILE

28 Milling Machines Champing to Churn

Now firmly established as road-building technologies, cold milling and the use of reclaimed asphalt pavement have placed the providers of milling machines in a good position right now. Senior editor Mike Anderson details the latest cold planers on the market — from largest to smallest.



"The main advantage of using this system has been the time savings... we've saved around a month on the contract overall."

*Kevin Primmer,
Kelston Sparkes Earth Moving*

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Budgets Go Begging

Last month, The Wall Street Journal reported on talk of federal involvement in state financial affairs. California Gov. Arnold Schwarzenegger has already trekked to Washington asking for help with that state's budget shortfall. Other governors will likely follow the scent of money, too. Illinois Gov. Patrick Quinn wants to increase that state's income tax by 50 percent in order to balance the budget. Illinois and California are not alone. With 47 states reporting, overall state tax revenues are down 13 percent in the first quarter. According to the Journal, states face a cumulative shortfall of \$230 billion.

Lost in all this, at least from an equipment manager's perspective, is the financial stress that emissions management has placed on any fleet funded by public monies. We admire Quinn's stand on a balanced budget, but has he considered the state fleet's requirements? Has Schwarzenegger or any of the country's other governors or legislatures?

Construction Equipment has been addressing this issue through our Running Green series and our microsite at ConstructionEquipment.com/green. The costs of compliance are not cheap. In Glendale, Calif., fleet management wants to purchase \$200,000 worth of exhaust filters for 16 vehicles in order to meet CARB requirements. That's one dollar for each of the city's 200,000 people. Unfortunately, the city is burdened with a \$10 million budget deficit. Glendale faces fines if it doesn't conform to emissions requirements.

If you manage a public fleet, you need a strategic emissions compliance plan. Your fleet's needs are competing with the social services that cities and states have to fund. Corporate decision-making must include the equipment manager. You have to be able to make the case.

This column had its genesis as a blog on ConstructionEquipment.com. We've launched a staff blog, called "Big Iron." You'll find commentary, observations, videos, photos....anything to do with our shared passion for big iron. Drop by, leave a comment, or just see what we find exciting about construction equipment.



Rod Sutton, Editor in Chief

We welcome your comments.
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Rod

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Takeuchi was the first to introduce the compact excavator and compact track loader to the North American market, setting the stage for one of the fastest growing market segments in the construction industry.

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

By KATIE WEILER, Managing Editor

✓ Mauldin

The Mauldin Silver 16 screed becomes the company's entry in the electric-screed competition. The electrical heating system allows independent zone temperature control, and the 10 kW hydraulically powered generator, delivers enough power to heat the screed even with paver engine running at idle. Single-stage extensions, riding on new "Power-Glide" guides stretch paving widths up to 15.5 feet, and power-extending feed tunnels deliver a smooth supply of material across the variable width.

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➤ Bobcat

At just 47 inches wide, Bobcat's seventh compact track loader, the T110, is narrow enough to travel through small openings or grade on constricted lot lines, making the loader ideal for home projects and landscaping. Equipped with an all-steel undercarriage, the T110 loader withstands tough digging conditions, and the rubber tracks prevent damage to existing turf. The 5,202-pound compact track loader has an operating capacity of 1,100 pounds and is powered by a 41.8-horsepower engine.

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➤ John Deere

G-Series motor graders offer the industry's first choice of traditional hydraulic controls or arm-rest-mounted fingertip electronic controls, in addition to features such as automatic cross-slope control, automatic differential lock and a rearview camera. Fingertip electronic levers on the Grade Pro models mimic industry-standard layout of motor grader levers, with the addition of lever steering. All six G-Series graders offer a steering wheel. G-Series models, ranging from 185 to 275 net horsepower with 12- and 14-foot moldboards, offer a choice of front- or mid-mount scarifier, or a rear ripper/scarifier. Watch video demonstrations of the electronic controls and the all-wheel drive system at www.constructionequipment.com/article/CA6642886.html.

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✓ Elliott

Packaged on a tracked carrier with an available enclosed operator's station, the new 30-ton-capacity Elliott 30105DT is designed for off-road craning applications. The Elliott 30105DT crane and digger unit offers a main boom length of 105 feet; tip height of 115 feet; and, with the radio-remote-controlled work platform, personnel working height up to 120 feet. Long-stroke outriggers are designed for greater ground penetration and stabilization, and a load moment indicator is included for safe boom operation.

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Market Watch



◀ Stellar

Expanding Stellar's EC Series line of service cranes, the EC4000 is a 16,000-foot-pound crane with maximum lifting capacity of 4,000 pounds. It

comes in either a 16- or 20-inch reach. Also available is the larger EC5000, a 25,000-foot-pound crane with maximum lifting capacity of 5,000 pounds. Features on both cranes include a standard radio remote control and environmentally friendly hydraulic oil.

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▶ Bomag

The redesigned BW145-40 Series single-drum vibratory rollers from Bomag are powered by a 75-horsepower Tier 3 Deutz diesel engine. With a 56-inch-wide working width, it is large enough for medium-sized projects yet small enough for confined spaces. Three models are available — two smooth drum and one padfoot — for compaction of granular/mixed soils and cohesive/semi-cohesive soils, respectively. The new hood provides full access to engine, hydraulics and cooling system. The rollers also feature improved ergonomics in the operator's station.



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▼ Northshore Manufacturing

A single under-slung boom hoist and jib cylinder provide the operator of Northshore's Builtrite Model 2000 truck-mounted crane with enhanced visibility to the lift and surrounding work-site. Offering a standard horizontal reach of 25 feet 6 inches



and vertical reach of 37 feet 6 inches, the high-pressure, high-flow crane is powered via a pressure-compensated, on-demand, load-sensing pump oper-

ated off the engine PTO. The operator has two-lever hydraulic joystick controls for the crane, and a foot pedal for 360-degree continuous rotation in either direction.

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◀ Wacker Neuson

Wacker Neuson's 6-metric-ton 6003 mini excavator bridges the gap in the seven-model lineup between a 5-tonne zero-tail-swing model and the 8-tonne top of the line. A 58.7-horsepower Yanmar diesel provides power, and maximum digging depth is 12 feet

7 inches. The 6003 comes standard with an air-conditioned cab and choice of standard or long dipperstick. Also included are rubber tracks, dozer blade, boom-mounted working light, and a control-pattern selector valve.

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▶ IMT

Built on a Dodge or Freightliner chassis, the IMT DSC12 mechanics truck is designed for maximum fuel economy and ma-



neuverability in urban environments. Weighing 2,150 pounds, it is the most compact unit in the Dominator Series and is said to use about half the fuel of a full-sized mechanics body mounted on a Class 4 chassis. The DSC12 comes equipped with an IMT 3203i electric telescopic crane, which offers 3,200 pounds of lift capacity and 15 feet of horizontal reach.

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◀ Ditch Witch

A patented dual-drive pipe system enables the Ditch Witch JT3020 All Terrain horizontal



directional drilling unit to drill and steer at the same time. This, says Ditch Witch, is an advantage over single-rod systems, which are not capable of steering as well, if at all, in consolidated soils. The inner pipe of the JT3020 All Terrain's two-pipe drill string continuously turns the drill bit at 150 to 400 rotations per minute. The new HDD unit can steer, drill and back-ream up to 650 feet in all types of soil, including solid rock, and can be secured on most surfaces thanks to a heavy-duty hydraulic anchor system.

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Market Watch



◀ Bobcat

Designed to increase operator productivity while reducing maintenance hassles, Bobcat's E80 excavator features a spacious cab with a high-capacity climate-control system and adjustable seats, armrests and joysticks. Service intervals for greasings of the bushings was extended to 250 hours, freeing up more time for operator work. The 54.2-horsepower E80 has a dig depth of 15 feet 6 inches and an operating weight of 18,880 pounds with rubber tracks.

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▼ Terex Roadbuilding

Hydrostatic planetary drive at each wheel provides the 400-horsepower RS445C reclaimer/stabilizer with "true" four-wheel drive, says Terex. With no axles, flow dividers or lock differentials, it delivers the power and traction required for applications ranging from deep stabilization with lime slurry to reclamation cuts pushing a tanker up hill, the company says. Drawbar pull has been increased by more than 40 percent over the RS425C model. A center-mount cutter assembly positions the 59,000 pounds of operating weight over the 96-inch cutting width to keep the rotor from riding out of the cut.



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◀ Sennebogen

Updated D Series versions of the Sennebogen 835 and 840 material handlers are available as rubber-tired, crawler, pedestal-mounted or electrically driven machines. Each powered by 264-horsepower Cummins

diesel engines and equipped with 25-kilowatt magnet systems, the 835 and 840 D Series models weigh 100,000 and 123,000 pounds, respectively. Among new safety features, a sliding door rather than a swinging door provides access to the cab from an adjacent catwalk.

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▲ John Deere

Deere announced the 764 High-Speed Dozer (HSD) has significant changes compared to the prototype debuted at Conexpo. The new machine form — a high-flotation dozer/grader/towing tractor with top speed of 18 mph — now has a rear axle that oscillates on a center pivot instead of a rear suspension. Track modules, developed with Camoplast, are upgraded with cast track frames. HSD features the same cab as Deere's new K-Series loaders. It is powered by a Tier-3 PowerTech Plus 6.8-liter engine rated at 200 horsepower through a hydrostatic drive train.

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▲ Gehl

Gehl's RS10 telehandler offers a rated lift capacity of 10,000 pounds, even without the use of outriggers or fluid-filled tires (outriggers are available as an option). The unit has a maximum lift height of 44 feet, and the boom features a welded box-section design. A rear axle stabilizer locks the rear axle in position whenever the boom is raised more than 60 degrees, the parking brake is engaged, or the Personnel Work Platform System is activated. It is powered by a 115-horsepower diesel engine.



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◀ Caterpillar

Three new Caterpillar-designed Mobile Shears — S320B, S325B and S340B — round out the six-model B-Series lineup with a redesigned lower jaw, wider jaw opening, new knife-retention system, new jaw-adjustment system, greater hydraulic power, and boom or stick mounting options.

The straight lower jaw enhances cutting force, according to Cat, by flattening beams, pipes and columns and distributing the material evenly along its length rather than concentrating it in the center of a curved jaw. Increased hydraulic power allows a wider jaw opening to handle a greater volume of material.

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► Hamm

The first HD+ tandem vibratory rollers, the HD+ 120 and HD+ 140 with operating weights of 13.2 and 15.4 tons and drum widths of 78 and 84 inches, replace Hamm's HD 120 and HD 130. Each size of compactor will be available in three models: the HD+ 120 or 140 VV, with vibration in both drums; the HD+ 120 or 140 VO, with vibration in the front and Hamm's Oscillation compaction in the rear; and the HD+ 120 or 140 VV HF, offering high-frequency vibration to 4,020 vpm. Frequency and amplitude can now be controlled independently on either drum. The HD+ Series' offset capability has been increased 3 inches, to nearly 7 inches.

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► Terex

A full line of knuckle-boom truck-mounted cranes is available ranging from 9,590 to 442,540 foot-pounds in maximum load moment. For the 55 basic models, there are 230 boom options available, along with eight hydraulic extensions up to 69 feet. The large knuckle-boom series, ranging up in capacity from 184,390 foot-pounds and suited for trucks weighing more than 24 metric tons, offers continuous slewing gear, a wide range of fittings such as Z-arms and winches, and an optional hydraulic load-sensing system.

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Putzmeister

BSF 42-Meter truck-mounted concrete boom pump line has been reintroduced by Putzmeister, with a 136-foot-10-inch vertical reach and 124-foot-8-inch horizontal reach. Max output is 260 cubic yards per hour. Unit has four-section roll-and-fold design and a 120-degree working range. Features include twin-pipe delivery line on all boom sections; fully proportional cable and radio remote controls; and automatic lubrication of the hopper. The company's Ergonic Output Control reduces fuel consumption, the company says, by automatically adjusting engine speed to the minimum required for the delivery rate.

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► GOMACO

GOMACO's GT-3600 curb-and-gutter machine is now available with the optional G22 operating system with new graphical display that provides the operator with an easy-to-understand interface to the machine's controls. GOMACO says the G22's icons and pictograms and full text explanations reduce the operator's learning curve. The dual-language feature allows the G22 to operate in English or a second language, metric or imperial measurements. Advanced system diagnostics on the G22 automatically pinpoint and identify electrical circuit opens, shorts and fault codes to aide in troubleshooting.

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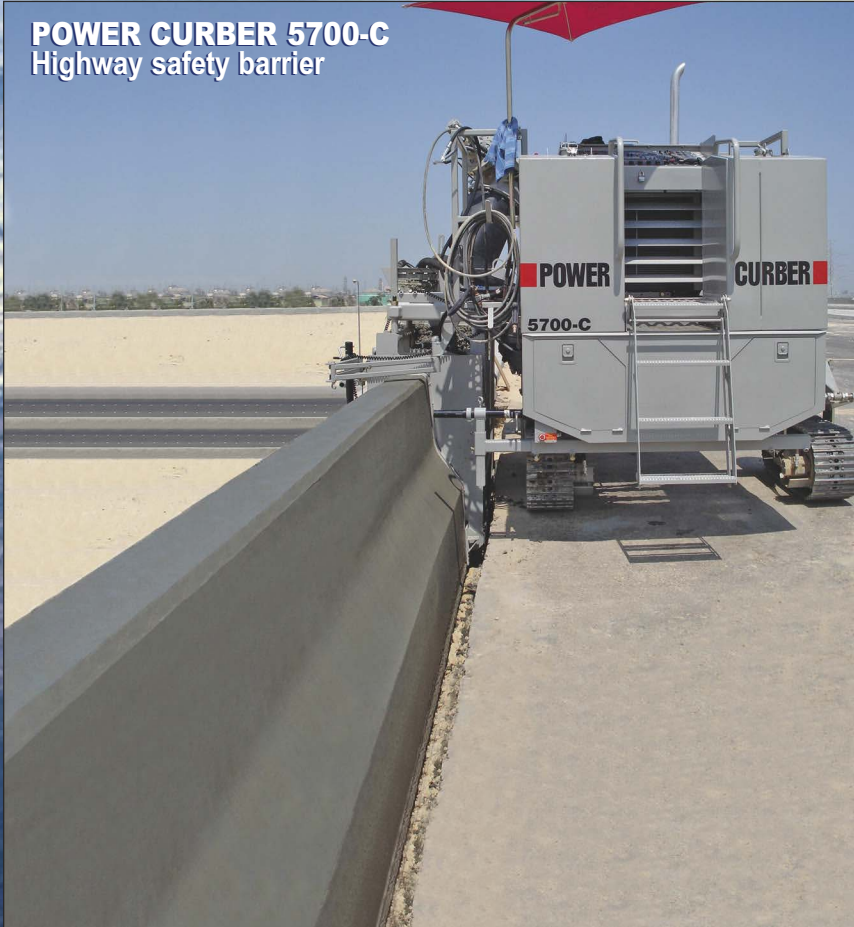
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OPERATOR TRAINING

Cat's Training Simulators Advance to 'Gen II'

Caterpillar and Simformotion reached an agreement whereby Simformotion will develop, manufacture and distribute Cat-branded, PC-based operator-training simulators beginning in the first quarter 2009. The first "Gen II" simulator features a wheel tractor scraper and will be available in August 2009. The second new simulator, scheduled for release in October, will be the 924H wheel loader.

Caterpillar has offered PC-based operator training simulators since 2004. But because of the introduction of new technologies, Cat will classify its existing simulators as "Gen I" to distinguish the old products from the new. Gen I simulators currently available include the M-Series motor grader, hydraulic excavator, large wheel loader, mining



Caterpillar unveils new operator-training simulator technology. Two monitors are necessary here because of the front and rear views required while operating a wheel tractor scraper.

truck and off-highway truck.

According to Larry Estep, Program Manager, the Gen I products will be phased into Gen II versions over the next three years. Estep also explained that Gen I software works with Gen II hardware, but Gen II software only works with Gen II hardware.

Gen II simulators will offer a host of improvements, including machine walk-

arounds, nighttime training, residential and commercial environments, different soil types, real-time instruction and real-time feedback, free-training module, safety enhancements and more. They will feature a new training-records management tool powered by SimU Campus, which will also be sold as an option for Gen I products.

— KATIE WEILER

CONCEPT MACHINES

Volvo Imagines Paving's Future

Volvo Construction Equipment turned its designers loose to imagine how to clean up the messy business of laying asphalt in the future, and the Fenix concept emerged. Fenix takes tamper-bar screeds to the extreme, and the machine not only lays mat, but also achieves final compaction. The team of paver and screed operators is no longer necessary, as instrumentation and video cameras put a single operator in command of all machine functions.

Volvo's designers envision asphalt transported to the site in what they call "thermopods" designed to hold 19 tons of mix at 275 degrees Fahrenheit for up to three hours. Thermopods are filled at a mix plant up to 30 miles away, coordinated to the jobsite by a superintendent and positioned in front of the paver at intervals appropriate to the depth



The operator is isolated from noise and fumes while sitting in a state-of-the-art cab, but controls all aspects of the paver's operation with help from video cameras and electronic instruments.

and width of paving.

A conveyor on the front of the Fenix loads each pod and positions it over the paver's auger chamber. Another conveyor on the rear discharges empties. The system can sustain a steady paving rate of more than 80 feet per minute. Each pod is fitted with GPS technology to keep everyone aware of each pod's exact location and condition.

MANUFACTURER NEWS

Bobcat Donates Historical Records To Smithsonian Museum in D.C.

Bobcat donated 56 cubic feet of its records to the Smithsonian National Museum of American History in Washington, D.C.

Corporate records on the company's manufacturing, marketing and business development are now in the museum's Archives Center

where employees learned about Japanese manufacturing and engineering techniques. Later Bobcat implemented some of these techniques in its factories.

The papers join the museum's extensive collection of agricultural, industrial and business pa-

pers, including William C. Kost farm records and the Southern Agricultural Oral History Project.

"We are honored to have these Bobcat historical records captured for future generations to re-search," says Leroy Anderson, marketing communications manager and historian at Bobcat. "The archives

are a snapshot showing how the brand has been built over the past 50 years. In addition to customer and internal publications, the collection includes dozens of films and videos, such as "Bobcat A Go-Go," "Bobcat Boogie," "Bobcat Square Dance," "Bobcat Kid," the first safety training film, and its sequels, "Bobcat Bootcamp" and "Operator Improvement."

A selection of Bobcat's records will be on view from Nov.30, 2009, through Jan. 17, 2010.

— IVY CHANG



Craig Orr of the Smithsonian National Museum of American History holds one of Bobcat's contributions to the museum.

and join an extensive collection of agricultural, industrial and business papers.

The records focus primarily on production, marketing and advertising from the 1940s to the present to illustrate how a small, family-owned business emerged as an industry leader.

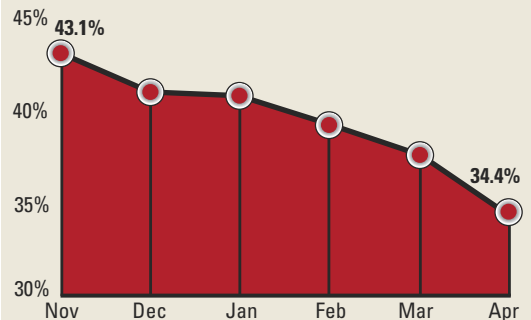
Photographs, product literature, advertisements, employee newsletters, drawings, scrapbooks and audio-visual materials are included in the donation as well as notes on a 1985 trip to Japan

USED EQUIPMENT

April Plateau

The Rouse Value Index

(Avg. orderly liquidation value as % of cost)



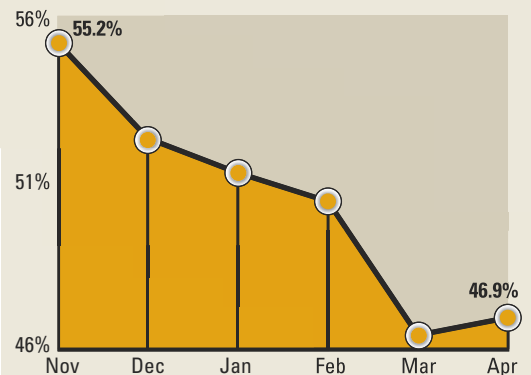
Note: Orderly liquidation value is expressed as a percentage of replacement cost (average cost paid for a new unit by large rental companies and dealers) for the average age of equipment within that category.

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

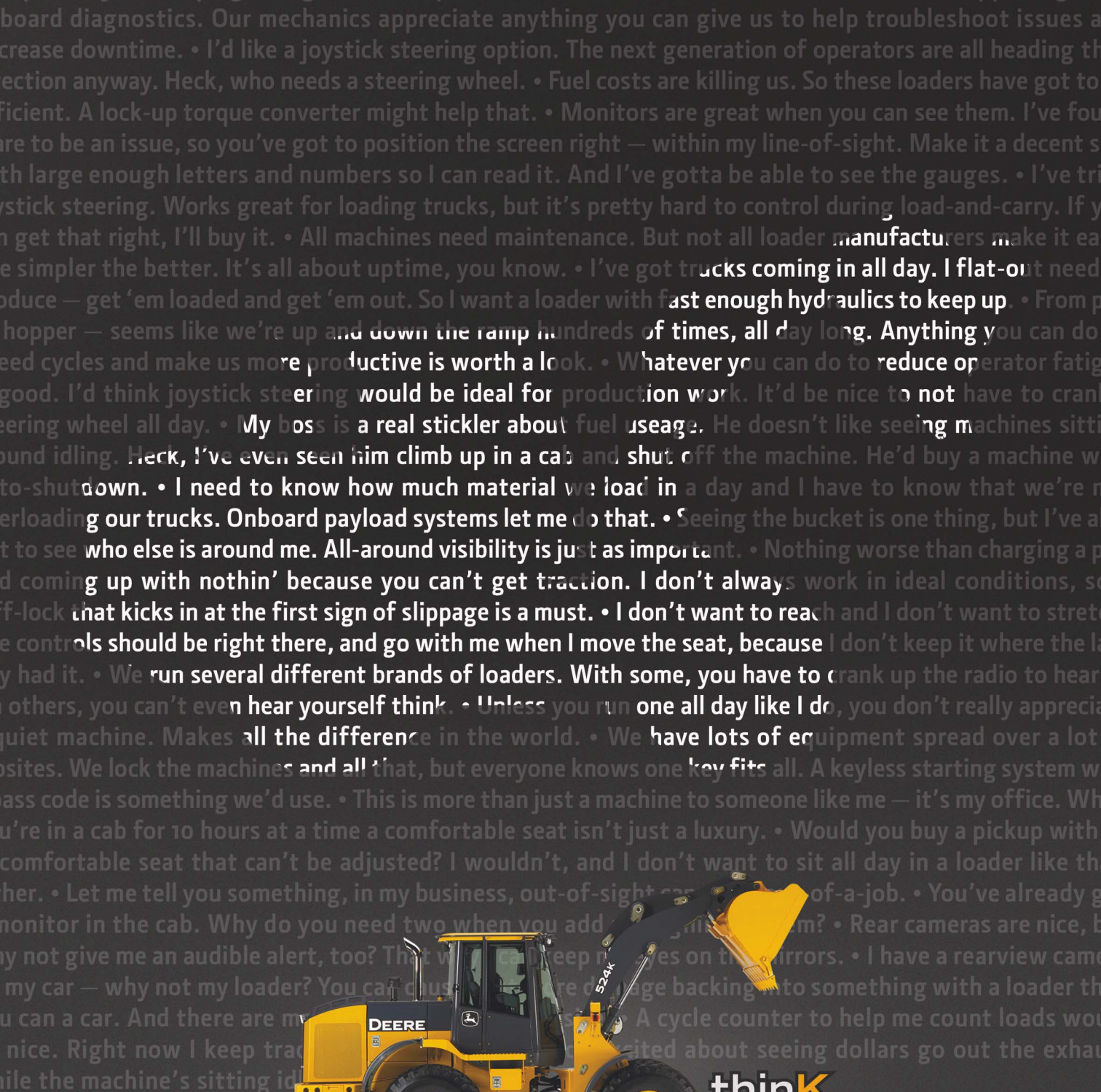
Orderly liquidation values stopped dropping in April, the first time since March 2008. Values are down 16.4 percent over the past six months. Backhoe loaders ticked up a percentage point; wheel loaders continued to drop.

Backhoe Loaders

(Avg. orderly liquidation value as % of cost)



Values of backhoe loaders bounced a bit in April, up 1.0 percent from March. The six-month trend is still down, though, with values 18.9 percent off of November. Average selling age is holding at 59 months.



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MILES AHEAD

SUPPLIER NEWS

Cat-Brand Retail Store Arrives in Dubai

The launch of a Dubai Mall location represents the first of several Caterpillar-branded retail lifestyle stores planned for test markets around the world in the next two years, according to the construction-equipment manufacturer.

The result of a collaborative effort between Caterpillar's two largest retail trademark merchandise licensees, Wolverine World Wide and SRI Apparel Limited, the store located in the burgeoning United Arab Emirates city of Dubai has been awarded to the Saudi Arabia-based retail dis-

tributor, Al Garawi Group. Al Garawi is a successful brand marketer in the retail arena in the Middle East, selling full ranges of Cat footwear, apparel and accessories, including belts, backpacks, hats, socks, eyewear and watches.

The Dubai Mall opened last November as one of the world's largest retail malls, housing 1,200 stores in almost 5.6 million square feet. "To have our first store open in this great environment demonstrates our strong connection with the global community," says Sean Gallinger, president of SRI Apparel.

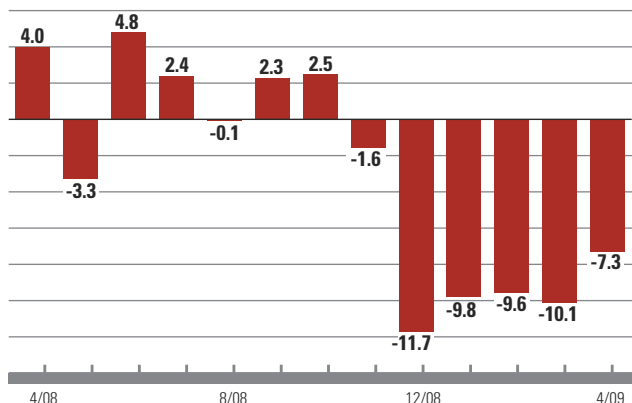
STATUS & FORECAST

CONSTRUCTION EQUIPMENT SHIPMENTS

The plunge in construction-equipment shipments continued through April. Sales are now 40 percent below last fall's peak. More declines are ahead. Sales have substantially exceeded orders for seven months. Manufacturers' order backlogs are down 40 percent, and their inventories have expanded the equivalent of six weeks of sales. Equipment prices began to weaken in April. Shipments are projected to drop 12 percent more by year end and to recover to slightly above recent sales by late 2010.

For more analysis, visit Economic Outlook at ConstructionEquipment.com.

(% change from previous month)



Source: U.S. Department of Commerce



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Safe Rigging *Begins with Eye Bolts*

High-capacity slings and shackles are pointless if they are attached to eye bolts that can't withstand the weight of the load

Several components make up an effective yet safe rigging system. One slight mistake could spell disaster, resulting in the loss of an expensive load, lifting equipment, or even the life of a crew member.

One of the most misunderstood pieces of rigging gear is also perhaps the most commonly used: the eye bolt. With only a loop on one end and threads on the other, this balloon-

shaped anchor looks harmless, but riggers must follow the appropriate operating guidelines and review the load chart for each type of eye bolt before attaching them to a load.

Schooling means safety

Training is the first step to assembling a rigging system complete with eye bolts. Without the proper education, riggers cannot grasp the small details that add up to a safe and successful lift.

"Most riggers are unaware of the capacities of eye bolts," says Howard Kaplan, safety and training director at Southwest Industrial Rigging. "Eye bolts are marked with size, not capacity, and as long as the eye bolt doesn't bend or break, usually riggers think everything is fine."

A mistake common among untrained riggers is the use of a shackle capable of lifting more than the eye bolt to which it's attached. If, for instance, the shackle has double the capacity of the eye bolt, then the eye bolt likely is overloaded by a 2:1 ratio.

Some riggers also fail to make the distinction between standard and shouldered eye bolts. Standard eye bolts are designed only for straight, vertical lifts. Shouldered ones, which are fitted with a "skirt" below the eye to resist bending, can be used in angular lifts but at reduced capacities.

"If it's not a shouldered eye bolt, most manufacturers don't recommend any kind of angular pulling unless it's a very miniscule

Eye Bolt Capacity in Angular Lifts

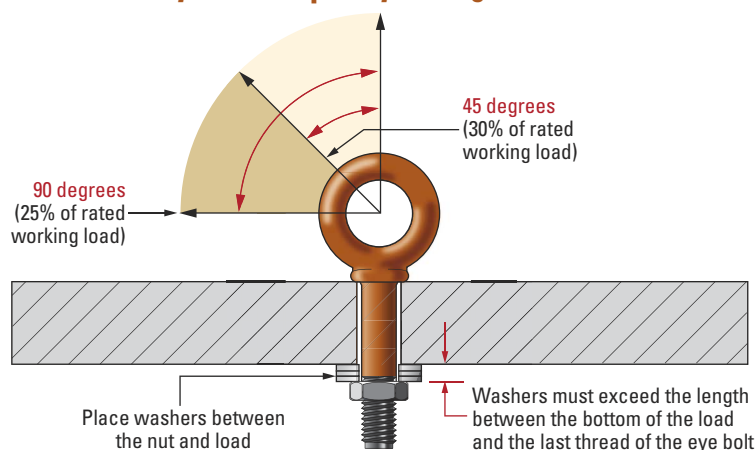


Illustration adapted from Gray Tools graphic.

Shouldered eye bolts are designed to handle angular lifts, but pulling at an angle greatly reduces the eye bolt's load capacity. When pulling at an angle of up to 45 degrees, several eye bolts can hoist only 30 percent of the rated working load. Pulling at an angle of up to 90 degrees further decreases that capacity to 25 percent of the working load. Always check the manufacturer's load chart to determine the eye bolt's capacities for both straight and angular lifts.

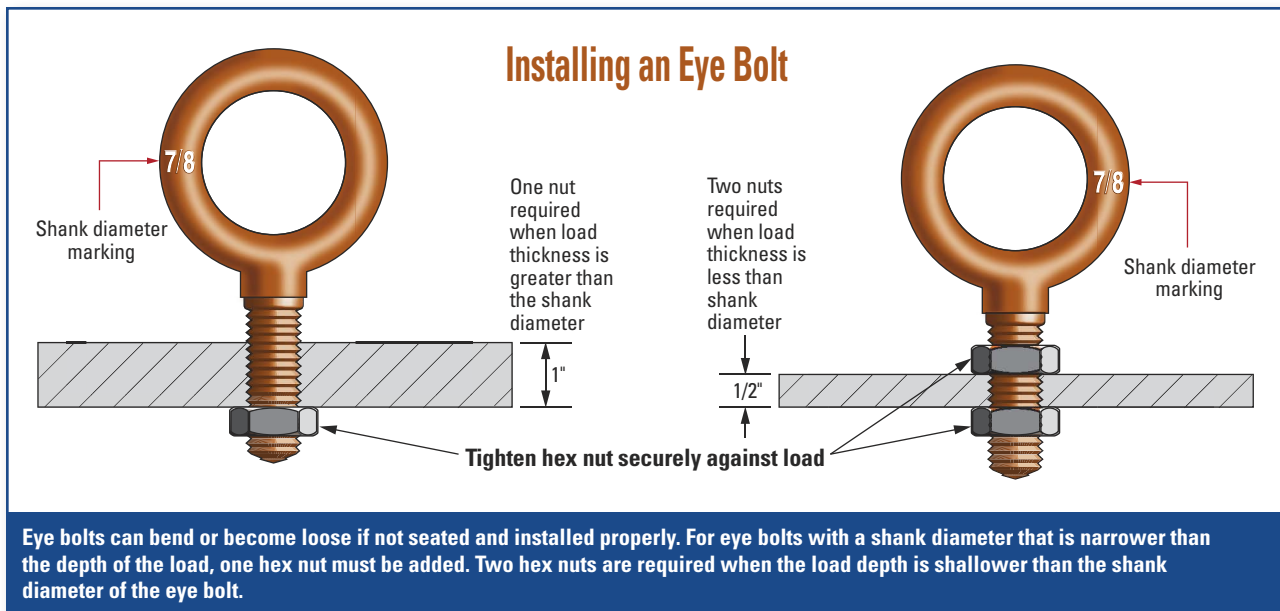


Illustration adapted from Gray Tools graphic.

amount,” Kaplan says. “If you add any kind of angle, the capacity drops so quickly.”

“Even with a shouldered eye bolt, you don’t want to go below 45 degrees. If you do, you always have to look up the manufacturer’s capacities,” he says.

Before making a lift

Fifteen years ago, Southwest Industrial was contracted to hoist a heavy stamping press, nearly 75,000 pounds. The rigging crew thought they could successfully and safely lift it because it was attached to large, high-capacity eye bolts. “It bent,” Kaplan says, referring to one of the eye bolts in the midst of the lift. However, the press was not too heavy for the eye bolt. The eye bolt bent because the crew failed to properly seat the shoulders of the eye bolt. Dust, dirt and grit had built up in the tapped hole of the load, and the crew neglected to clean it out.

“At 75 degrees, there was just enough angular pull that the failure to seat the shoulders at near-capacity lift bent the eye bolt,” he says.

Fortunately, no one was injured and the load was intact. “But an eye bolt could have pulled out, and we could have lost the load,” Kaplan says. “The lesson learned was to take a second look. Had they just cleaned out the tapped holes and run the eye bolts in completely and accurately by seating the shoulder, they would never have had that issue.”

Tapped holes for eye bolts must be

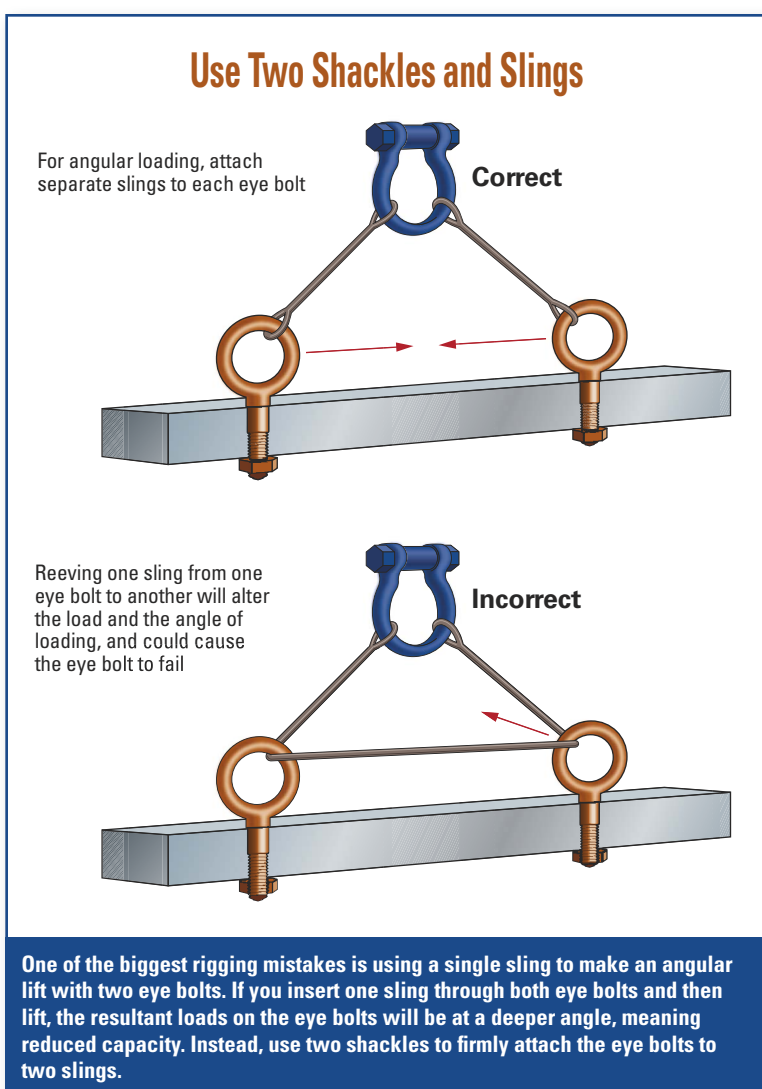
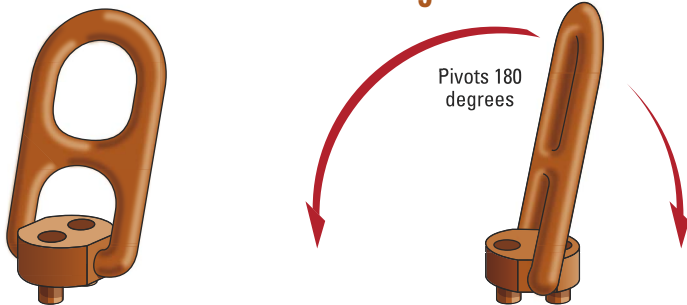


Illustration adapted from Construction Safety Association of Ontario graphic.

Swivel Hoist Rings



Shims must be added to an eye bolt if applying a load perpendicular to its eye, and angular pulls reduce the capacity of the eye bolt. But swivel hoist rings offer added versatility. Because they have a bail that can rotate and turn in multiple directions, swivel hoist rings can withstand a consistent load capacity regardless of lift angle and load alignment.

Illustration adapted from Construction Safety Association of Ontario graphic.

capped or plugged when not in use. If cleaning out the eye-bolt hole does not help to properly seat the shoulders, use washers or spacers to ensure a secure fit.

Another rule is never to reuse a bent eye bolt. They might appear sturdy, but actually bent eye bolts have been structurally compromised.

“I often use the analogy of the paper clip: If you bend it one time, what happens to the paper clip? It doesn’t break. But it does if you keep bending it,” Kaplan says.

Eye bolts could also bend if they are not aligned with the sling line during a lift. The load should be in the plane of the eye, according to The Crosby Group, a manufacturer of rigging gear.

What Not to Do

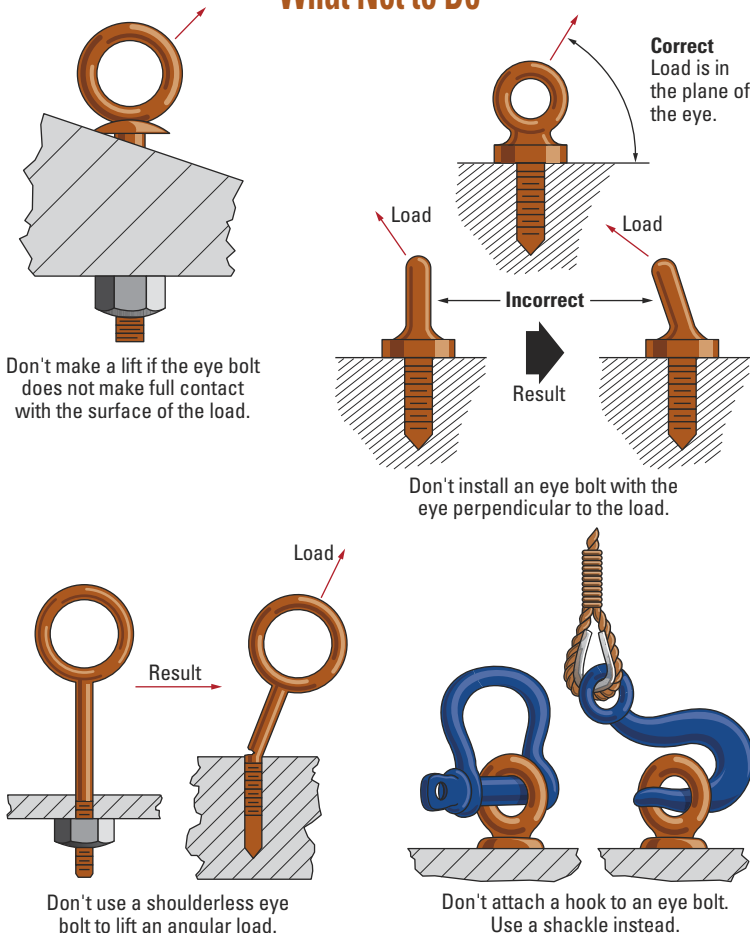


Illustration adapted from The Crosby Group graphic.

A safer alternative

More and more, riggers are taking advantage of swivel hoist rings as an alternative to eye bolts. Unlike eye bolts, which are immobile when attached to the load, swivel hoist rings have a bail that can pivot and move up and down, eliminating many of the issues and structural weak points that plague standard and shouldered eye bolts.

There are a few downsides: They are more expensive, heavier, and they have to be torqued down. “But you have consistent capacity anywhere you want. You can spin it, turn it, rotate it, and it retains the same capacity regardless of the angle,” Kaplan says.

Swivel hoist rings worked perfectly when Kaplan’s company was contracted to lift — from vertical to horizontal — a decommissioned nuclear reactor in Idaho, he says.

Kaplan advises riggers using swivel hoist rings for the first time to thoroughly read the instruction manual that comes with the hoist ring, as there are a few key differences from a standard eye bolt. For instance, with swivel hoist rings, riggers should turn the ring so that the eye is perpendicular with the load, unlike with eye bolts where the eye should run parallel with the load.

Now is the time to learn how to use these rigging tools safely, Kaplan says. Don’t wait until after an accident happens.



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Lightweight Peterbilts Boost Bulk-Hauler Payloads

A normal load of cement is 27.5 tons for this Kansas fleet, which uses leasing to acquire and maintain these tractors

Payload and reliability are everything for Dave Coover, owner of Coover Trucking, whose fleet of 14 tractors and pneumatic-tank trailers are kept busy hauling bulk cement for construction projects in Kansas and surrounding states. That's why he runs eight efficient, lightweight, late-model Peterbilt 365 tractors like the one shown here.

Looks are also important, partly for "driver acceptance," he said, and that's why he was attracted to the Model 365, a vocational type usually used as a dump and mixer chassis. It has a more boxy nose than aerodynamic models, and is arguably more practical because of its hood-mounted halogen headlights and detachable fenders that are easily repaired or replaced.

Coover and his drivers prefer the traditional look, and they've accepted the 365s after driving trucks like Kenworth's W900.

Driver David Huff is assigned to our subject tractor, an '08, which I took on a short test run for this article. He's 62 and has 20 years driving experience, the last four with Coover. He said he preferred a W9 he previously drove, but the 365 was OK, too. Coover said Huff is among his most conscientious drivers and washes the tractor and Heil pneumatic

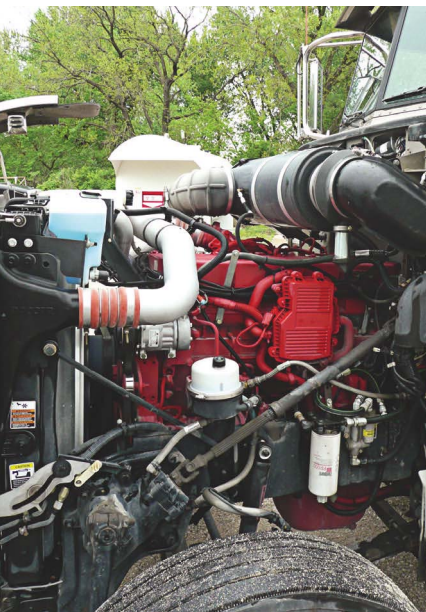
trailer several times a week.

This was a rainy day and most trucks were idle. Coover had Huff pick up a load that could go out later. He loaded up at a Monarch Cement plant across the road from Coover's office at Humboldt. The powdery product that poured into the 41.5-foot Heil tanker weighed 54,600 pounds, according to the plant's scale; with the rig's tare of 25,460, that put us at 80,060 pounds — slightly overweight because of me.

The tare included 14,500 pounds for the sleeper-cab tractor — probably closer to 15,000 with both of us aboard — which is about 3,000 pounds less than a typical over-the-road tractor. All of the savings go to payload, which adds about a nickel-a-mile in revenue. Coover collaborated on spec'ing with Ryan Saner, branch manager at Peterbilt PacLease of Springfield, Mo., who set up a lease of the eight Petes. Coover said he insisted on low weight and Saner looked over everything.

A 365 is basically light in weight, though by only a few pounds compared to a highway-type 386, Saner said. A "small-block" diesel — Cummins' 11-liter ISM — is the single greatest weight saver. It scales about 800 pounds less than a 15-liter ISX, a more common highway engine.

The "little" 410-horsepower Cummins pulled well on a run in the area. And the Fuller 10-speed Roadranger had just enough ratios for any situation, especially considering the flat highways of southeastern Kansas. I wasn't at my shifty best on this day, as I missed a few gear changes, mostly because I wasn't familiar with the tractor, and 60 or so miles wasn't enough to become so. The clutch pedal needed a strong leg to operate, which



Cummins ISM, which scales about 800 pounds less than an ISX, is the single biggest weight saver. It's gutsy enough for running in mostly flat terrain.

Peterbilt-Heil combination takes on 54,600 pounds of cement at a plant near Coover Trucking's office at Humboldt, Kan. Model 365's traditional styling appeal to owner Dave Coover and his drivers. Tractor's lightweight specifications help a rig carry profitable payloads.



is typical of Peterbilts.

The Pete rode firmly, which is partly a function of the 14,600-pound springs over the 12,000-pound steer axle. Saner said Peterbilt insists on using the heavier springs with a forward-set steer axle for durability. Visibility over the sloped hood to the front and sides was very good; an extra convex mirror above the right fender was useful in checking traffic alongside.

The cab sits moderately high off the ground and it's a healthy climb up. The cab's interior features a rather complete set of gauges set off by woodgrain dashboard trim. Seats are cloth-covered and cool. The floor mat is no-nonsense rubber, and the overall impression says "work truck." That's echoed by beige exterior paint, which Coover chose because it doesn't show the cement that inevitably dusts the rig during loading and unloading.

Aside from the engine, the Pete's lightweight parts include aluminum cross members, hubs, wheels, tanks and boxes. A single exhaust stack weighs less than dual stacks, but it's smartly trimmed with chrome. A Holland fixed fifth wheel is lighter than a slider. Coover knows he could save about 800 pounds by going to wide-base single tires on the rig's two tandems, but "when one of those tires goes down, the truck goes down." So he stays with low-profile duals to ensure reliability.

A tractor carries a single aluminum fuel tank which holds up to 120 gallons — enough in this out-and-back operation. Diesel fuel weighs about 7.5 pounds per gallon, so carrying more would only reduce payload. Fleet fuel economy averages 5.8 to 5.9 miles per gallon in the cool spring months and in the low 6-mpg range in summer, Coover said.

SPECIFICATIONS

Tractor: 2008 Peterbilt 365, conventional-cab w/36-inch sleeper, BBC 115 inches, w/many aluminum components, Holland fixed fifth wheel

Engine: 2007-spec Cummins ISM, 10.8 liters (660 cubic inches), 410-hp @ 2,100 rpm, 1,550 lbs.-ft. @ 1,200 rpm

Transmission: Eaton Fuller FRO15210C 10-speed

Front axle: 12,000-lb. Dana Spicer E1220I on 14,600-lb. Parabolic leafs

Rear axles: 40,000-lb. Dana Spicer DSP40 w/3.55 ratio, on Peterbilt Air-Leaf

Wheelbase: 216 inches

Brakes: Spicer S-cam w/Bendix ABS

Tires & wheels: Bridgestone R280 (front), M720FE (rear); 295/75R22.5 on Alcoa aluminum discs


Fuel tank: Single 120-gallon aluminum

Trailer: 1,040 cu-ft. Heil 1040 Cementer aluminum, pneumatic off-loading

This is about the same as the Caterpillar C-12s and C13s in his older tractors.

To meet 2007 federal emissions regulations, the ISMs have variable-geometry turbochargers, exhaust-gas recirculation, and diesel particulate filters. These make the engines burn so cleanly that there's no exhaust odor and no visible smoke at all. The electronic controls and circuits that operate them and the components themselves are complex and not without problems, which has been the case with all modern diesels, Coover noted.

However, the full-service lease agreement means Coover doesn't have to worry about trying to maintain them. Some of his rigs make deliveries near Springfield and Joplin, where the Peterbilt-PacLease dealer has shops, and work can be done there. Saner said he checked out and authorized an independent shop close to Coover's operating base to do routine servicing and repairs.

So, here are some specs and a business arrangement that work here. How good are yours? 

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Buying File: Milling Machines

By MIKE ANDERSON, Senior Editor

Milling Machines Champing to Churn

Waiting road projects have cold-planer manufacturers welcoming new market opportunities

Now firmly established as road-building technologies, cold milling and the use of reclaimed asphalt pavement have placed the providers of milling machines in a good position right now.

“There’s pent-up demand out there,” says Eric Baker, marketing manager with Roadtec. “The stimulus package has helped a little bit, especially in the mills, because a lot of that work that has been ‘shovel-ready’ as they call it, and that they can get up and going quickly, is mill-and-fill-type work. So, there’s been a good demand especially for the larger machines — the half-lane and above. Basically, even with the down economy, we’re holding steady with what we’ve seen in the past.”

Roadtec, an Astec company that also manufactures pavers, material transfer vehicles and stabilizers, offers tracked milling machine models in four sizes. From smallest up, the product line starts in the 4-foot-cutting-width market with the utility/commercial RX-400 and works up through the half- and full-lane markets with the RX-500, -700 and -900 models each available in three or four-track configurations. “We do best with large contractors,” says Baker, “and they tend to be doing a lot of this work.”

At the large end of the spectrum in terms of model size, Roadtec competes with Wirtgen and Terex Roadbuilding. Moving down in model size to the largest single market segment, consisting of half-lane machines, the roster of players expands to include Bomag, Caterpillar, Dynapac and Volvo.

With upwards of 20 model sizes and configurations, Wirtgen America runs the gamut in terms of offering milling machines, or cold planers as some marketers call them, ranging from the 14-inch-cutting-width wheeled W 35 up to the full-lane tracked behemoth W 2200 / 12.

“You still have custom milling guys today who will have anywhere from 10 to 20 machines, some of them more than that, who will have a range of machines all the way from the ones that cut around manholes that cut 12 or 14 inches wide right through to the big 12-foot- and 14-foot-wide milling machines,” says Jeff Wiley, senior vice president, responsible for sales and marketing over the Wirtgen product line. “The reason why is so they become a complete supplier. If you have a prime contractor who wants somebody to bid milling work, they want to be able to offer the whole supply of different widths, different cuts, different applications to one milling source.”

An advantage to having a wide number of



The half- and full-lane Terex Roadbuilding milling machines, including the smaller PR600C shown here, are available in either a three- or four-track configuration, with a large track in the rear for enhanced stability. Terex offers five milling model sizes, including the PR330 available in both a track and wheel configuration.



For the milling of complete road lanes in one pass, the W 2200 / 12 model combines Wirtgen's most powerful cold mill size, at 900 horsepower, with a 12-foot-wide cutter drum. On Wirtgen's large milling machines, the operator's platform, inset, features identical control consoles installed on the left and right, each able to be tilted and moved sideways.



models, says Wiley, is being able to ask customers up front exactly what they intend to do with the machines — and where and why — and then being able to match those customers to the correct model. “If you have a guy who’s going to be cutting on I-80 that goes across North America and he’s going to be doing 8 or 10 inches deep of solid asphalt all day long, we tend to shift him into a 700- to a 900-horsepower machine,” he says. “If he’s going to be doing an inch-and-a-half on city streets, we tend to shift him into a 500- to a 600-horsepower machine.” And, adds Wiley, with four models with assorted configurations covering the half-lane class alone, each at different weights, particular jurisdictional transportation issues can be addressed right at the selling point.

Above all, says Baker, milling-machine customers demand responsive equipment. “Reliability is always number one,” he says. “Someone once told me, ‘You can be the fastest guy in the race, but if you don’t finish, it doesn’t matter.’ So, they definitely look for the reliability. A lot of these jobs now are mill-and-fills, so you’re only as good as your weakest link. If your mill stops, then the whole road-building operation stops.”

Roadtec strives, says Baker, to keep the road between the factory and the jobsite . . . well . . . as straight and simple as possible. Ease of machine maintenance is key. “If something does go wrong, you can troubleshoot it easily out on the jobsite. We

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50.0 - 71.9"	\$476,603	\$320.59
72.0 - 87.9"	\$599,999	\$431.30
88.0" and up	\$760,200	\$591.56
* Hourly rate is the monthly ownership costs divided by 176, plus operating costs. Unit prices used in this calculation are diesel fuel at \$2.20 per gallon, mechanic's wage at \$46.29 per hour, and money costs at 5.625 percent.		
Source: EquipmentWatch.com, phone 800/669-3282		

don't use a lot of CAN-bus-type setups because, while they are reliable, if something does go wrong, it can be hard to troubleshoot," he says. "For the most part, all the main functions that you need to operate the machine are directly wired. With analog voltages, you can easily get a multimeter out, test the voltages right then and start troubleshooting, if you did have a problem."

A new name

Within a market considered specialized with a limited number of players, a new name has emerged.

Buying File: Milling Machines



The rotor drive system on Caterpillar's top-of-the-line, half-lane PM201 cold planer has a hydraulically actuated wet clutch driving a Cat planetary gear reducer located inside the rotor mandrel, as compared to a dry clutch system requiring more frequent rebuilding and parts replacement, says Caterpillar. With commonality benefits, the system uses components from the Cat D8 track-type tractor.

The models may have familiar nomenclature, but the branding of Volvo's first two milling machines is significant, says Patrick Wakefield, Volvo Construction Equipment's segment manager for milling. The MW500 is a utility-sized wheeled milling machine; the MT2000 is a half-lane tracked unit. "Volvo wanted these products to be true Volvo products," says Wakefield. "We took some time and made sure they met all of Volvo's criteria for launching a product: Very rigorous field testing; all kinds of preparation as far as being able to support the product; service manuals for the machines, which is something Ingersoll Rand did not do at the time. Those sorts of things that Volvo has as criteria prior to putting a machine into the market, we were able to accomplish in that time."

The most notable enhancement is the offering of three distinct engine and drum cutting speeds on the MT2000.

"The feedback has been positive, not only on the performance and reliability of the machine and what it brings to the marketplace, but also the fact that the Volvo brand and the Volvo dealer network is there to stand behind this class of machine. That is one thing that this acquisition brought — the powerful brand and the powerful dealer network to our products."

For Volvo, the offering of milling machines fits into a road-building product family. "What that does is allow us to be more of a total solutions pro-


vider, now offering milling along with the paving, compaction and grading equipment," says Wakefield. "It's been some time in the coming to get that product developed, but now it lets Volvo round out that product line. That's important for meeting the needs of our contractors, many of whom are involved in all of those different businesses."

Two models — one utility, one mainstream; one wheeled, one tracked — does build anticipation in the marketplace for more Volvo milling machine models. "I believe they can expect that," says Wakefield. "I can't say at this time when, and where, and which models, but we do have plans for a well-rounded product line to meet the needs of the different kinds of contractors. The 500 is more of a utility-size machine for cleaning up city streets and a lot of utility and trenching work, where the 2000 is a very versatile machine for your larger projects. There are some other classes that we do plan to participate in."

From the perspective of a company already established in all size classes, there are challenges ahead regardless, says Wirtgen's Wiley. "In my opinion, where does the industry go from here is basically 'Think Green' technology, having an energy-saving machine," he says. "Looking to the future with at least the same horsepower, if not more, but conserving energy, so you have a machine that is going to be giving you the productivity but is going to be more energy-efficient."

With the few models of milling machines over 750 horsepower lagging behind their Tier-3-compliant smaller brothers, due to a lack of product from the engine makers, it is possible those large machines may end up jumping from Tier 2 to Tier 4, Wiley says.

Milling machines are, indeed, becoming more productive, says Baker. "The automation on the mills has greatly improved," he says, pointing out that at one time many millers were focused solely on re-establishing grade. "Now they're looking at it as more of a smoothness opportunity. They can average and take out any bumps with the mill and achieve a much smoother surface and then even further build on that when you go to do the paving."

A good position to be in, indeed. 

For a full listing of milling-machine specs, go to the Buying File at ConstructionEquipment.com.

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Gallery of Milling Machines



WIRTGEN

Large Family's New Member Has Options

Among its close to 20 total models and assorted configurations, Wirtgen America runs the gamut of milling machines. As "a large but compact" unit, the newest W 150 offers the best of both, optionally fitted with drums of 48, 51 or 60 inches in width for various applications. The W 150 has a maximum cutting depth of 13 inches and accepts Level Pro, Flexible Cutter System (FCS) and FCS Light. Also available for the W 1900 and W 2000 units, FCS Light allows quick, less-expensive changes of a standard-tooth drum to a same-width, fine-textured drum. Programmed specifically for milling machines, the Level Pro automatic leveling system allows intuitive operation parameters such as slope values, and target and actual milling depth values on the left and right side.

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CATERPILLAR

Model Trio Covers Market Range

With three model sizes, Caterpillar offers fully hydrostatic cold planers to match the breadth of compact, urban and mainline milling applications. The compact PM102 model, available with a tracked or wheeled undercarriage, has a rotor width of 40 inches. The high-productivity PM200 and PM201 tracked cold planers have rotor widths of 79 and 83 inches, respectively. To increase tractive effort in slippery conditions, a positive traction control valve provides equal traction to all four motors on each model. With standard automatic rotor load control, an on-board microprocessor constantly evaluates engine and propel speed as required for peak performance. Propel speed is matched to the engine load so that the engine speed does not dip below a specified level.

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BOMAG

Machines Tackle Tight Curves

Ranging 39.6 to 78.7 inches — 1 to 2 meters — in cutting width, five models of crawler milling machines are available with efficiency-driven Bomag features. Drum side plates measure height using cable sensors, for milling at two heights. With use of the "Intelplaner" display, a cross-slope sensor allows milling to height and angle. An automatic coordinated front-rear steering mode provides tracking on tight curves without skewing the milling housing or damaging curbs. Transversely mounted engines drive the cutting drum directly via power belts, and auxiliary control panels allow steering and milling height to be controlled from ground level in difficult or critical conditions. For ease of transport, mechanically or hydraulically folding conveyors are standard.

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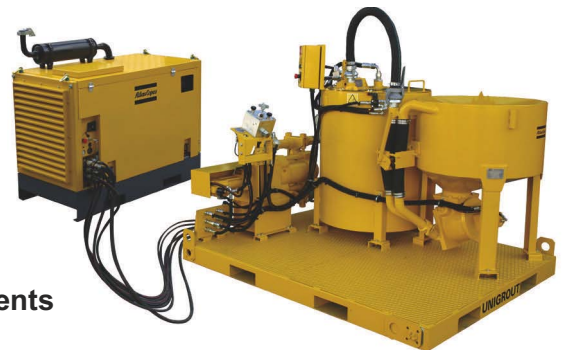
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A man with a beard is shown in profile, looking upwards. On his forehead, a small yellow excavator is balanced, with its arm extended. The background is white.

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Gallery of Milling Machines



TEREX ROADBUILDING

Product Line Churns Out Upgrades

Of six Terex Roadbuilding models, four have undergone recent updates. Among them are the 48-inch-cutting-width PR330 models, available in both the wheeled configuration synonymous with smaller units and a tracked version reflective of its larger brethren. Other updated models include one from each of those groups — the 30-inch PR220 wheeled model and the family's largest PR950 tracked machine. Product-line upgrades include an expanded control system offering and tooth-life enhancements. The half-lane PR600C and full-lane PR950 come in either a three- or four-track configuration, with a large track in the rear for stability. At the utility end, the 24-inch PR165 is offered both with and without a discharge conveyor that is said to offer "the best discharge height in the industry."

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VOLVO

Two Model Sizes, Styles Available

Redesigned to meet Volvo standards, the utility-class, wheeled MW500 and the half-lane, four-track MT2000 milling machines have claimed enhancements in cutting and diagnostics for improved performance, and in comfort and safety for the operator and crew alike. On the MT2000, which can run 78.25- and 86-inch cutting drums, most notable is the offering of three distinct engine and drum cutting speeds. This allows the operator to select lower speeds for higher torque or higher speeds for efficiency. The MT2000 has dual operating stations with intuitive panels, and independently controlled gathering and discharge systems. The MW500 features the patented Line Manager system for constant speed and direction, all-wheel drive for traction, and automatic precision depth control.

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ROADTEC

Four Units Boast Bi-Directional Milling

Competing at the larger end of the milling-machine market, with four models from the 48-inch-cut-width RX-400 to the 150-inch RX-900, Roadtec cold planers feature a bi-directional milling capability for pulverizing applications and leveraging emulsions packages available for each model. Improvements to the cutter drum area include re-designing the drum lacing for improved pattern on the milled surface and a more balanced tooth impact, and re-designing the end ring configuration to improve match



cutting and increase tool life. Design improvements are aimed at a goal of achieving 3,000 hours on the base block with proper upkeep of the bit and holder. Roadtec's cutter-housing design allows the mixing of material in cold-in-place recycling applications.

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MADDOCK

Single Model Offers Jobsite Versatility

Equipped with a cold planer, the VT325 VersaTool from Maddock falls into the milling-machine classification. A long wheelbase provides a stable platform for fine grade control, and low-range hydrostatic drive allows for infinite adjustment of ground speed to match job conditions. The VersaTool can work with cutter drums ranging 48 to 78 inches in width. The cutter drum itself can be shifted outside the tires on both the right and left sides, allowing the VT325 to mill a complete lane width and yet remain traveling completely within the particular work lane. Powered by a 325-horsepower John Deere engine, the VT325 can move independently between jobs at up to 22 miles per hour. Sonic grade and slope control features are available as options.

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CONSTRUCTION EQUIPMENT



Vermeer Attachment Catches Winds of Change

Emergence of wind-energy industry has utility installation contractors looking for equipment that can sort, configure and feed three cables at once

With the increased emphasis on wind energy, there's work to be done for underground transmission-line installation contractors. And, as always, there's no time to waste, even if some of the details need to be figured out along the way.

"What a majority of them are looking for is, 'How can they do it with one machine?'" says Tony Bokhoven, solutions specialist with Vermeer, "and that's what led us to the CL80."

The Vermeer CL80 cable layer attachment singularly sorts, configures and feeds three cables — one ground wire, one conduit with fiber-optic cable and one tracer tape — placing and securing the cables all in one pass. This eliminates the need for one machine to dig a trench and then another to lay and secure the cable. "There's about a mile of ditch that comes along with every wind tower," says Bokhoven. "With some of these wind farms, there's some considerable trenching that goes on, and so it's about the time. That's the driver for why you need an attachment like this."

At the EcoGrove Wind Farm in Stephenson County, Illinois, a crew from Morse Electric Co. working a Vermeer T655 Commander 3 trencher equipped with the CL80 was able to complete the trenching and cable installation phase for a 67-tower development in 57 days, advancing about 30 feet per minute, Vermeer reports. Construction of the turbines happened simultaneously on the jobsite.

"We're seeing a lot of activity going on in northern Iowa, northern Indiana, southern Wisconsin, and some in the Dakotas — all through that general central region of the States really — and the biggest hurdle is getting the product in the ground," says Bokhoven. "The hurdle really is that there is no unified set of regulations on how it has to be put in the ground, so that makes it a little tough for some of the contractors. But everybody told us that they wanted the three power cables in a triangle; a majority of places do it that way."

With the CL80, a series of rollers guides the cables over the machine and then feeds them into a cable box, where they are sorted in the right configuration. On descent into the trench, the cables begin to align in triangular formation, becoming more tightly knit on approach. The ground wire, conduit and tracer tape are placed on top of the formation as specified.

"We've made that attachment so that we can mount it on



With the Vermeer CL80 cable layer attachment, a series of rollers takes the multiple cables required for wind-energy transmission, guides them over the machine, and feeds them into a cable box where they are sorted in the appropriate configuration.

Photo: Morse Electric Co.

most of our trenching machines," says Bokhoven. "We have a sales code that's specifically for our 655 trencher, but we've fitted one up for the 755. It mounts on the end of the crumbler shoe, so it mounts at a place where we can be versatile on how it goes on the tractor. The trick is keeping that chute as narrow as possible. It's about 13 inches wide, outside to outside, and that's about the size of the ditch that everyone wants. They don't want to get much wider than that, because it simply takes longer to fill it in."

"The trick has become, 'What do you fill the ditch in with?'" he says, "and that's where the inconsistency comes in: Some places we're seeing that they backfill with dirt; some places backfill with slurry; some places backfill with a mixture of sand and pea gravel; it's kind of all over the board."

The CL80 cable layer attachment is among a series of products offered by Vermeer that can meet the needs of wind-energy installation contractors. Mid-size horizontal directional drilling units meet the challenges of crossing rivers and other environmentally sensitive areas. For use with the T655 Commander 3 tractor, the bucket-wheel attachment is suited for cross-country lines in soft soils.

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Komatsu's New Dash-6 Wheel Loader Aided by Large-Capacity Torque Converter

With the optional lock-up torque converter, the WA480-6 maximizes fuel efficiency and performance

Earlier this year, John Deere introduced its K-Series wheel loaders featuring a high-capacity torque converter with optional lock-up transmission for optimum fuel efficiency and better performance. Komatsu is also looking to achieve similar performance gains and fuel savings in its WA480-6 wheel loader — new to the North American market — which, like Deere's offerings, is aided by a newly designed large-capacity torque converter with optional lock-up functionality.

Sporting a 299-horsepower Tier-3 engine, Komatsu's wheel loader, part of the new Dash-6 series, comes in at an operating weight of 55,290 to 56,340 pounds. It can reach a maximum speed of 22.6 miles per hour in fourth gear.

The torque converter helps the wheel loader to accelerate and climb hills with ease, Komatsu says. It also increases productivity in V-cycle applications, makes gear shifting quick and smooth, and enables operation in higher gear ranges for higher ground speeds when working in load-and-carry or hopper feed applications.

To conserve fuel, a closed-center load sensing system uses two operating modes: E mode provides maximum fuel efficiency for general loading; P mode outputs more power for hard digging.

With the optional lock-up transmission, the WA480-6 gets even more production efficiency, reduced cycle times, and better fuel savings, according to Komatsu.

Equipped with an automatic transmission with electronically controlled modulation valve, the WA480-6 automatically sets the appropriate gear based on operating conditions such as travel and engine speed. With the

flip of the kick-down switch, the transmission can downshift from second to first gear when beginning the digging cycle, and functions as a power-up switch when the loader is already in first gear or economy mode.

In addition to enhancements in performance and fuel efficiency, Komatsu says it developed a more comfortable working environment for the operator. The enlarged cab has a wide pillar-less flat glass for better front visibility, low-noise design of 72 decibels, and a modified layout that places levers in more reachable positions. The steering column tilts and telescopes, and the two-spoke steering wheel prevents obstruction between the operator and both the monitor panel

and outside work environment.

Standard on the WA480-6 is Komatsu's Komtrax technology, which collects vital machine operating data, such as working hours, fuel consumption and location, and sends them wirelessly to a secure Web site for maintenance analysis.

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Key Specifications

Engine	Komatsu SAA6D125E-5
Horsepower	299 net horsepower
Operating Weight	55,920 to 56,340 pounds
Dumping Clearance	10'6" with 6-cubic-yard bucket

Komatsu's WA480-6 wheel loader utilizes several methods to conserve fuel, including a fuel-efficient economy mode ideal for general loading, and an optional transmission with lock-up torque converter.



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Market Watch Lite

By KATIE WEILER, Managing Editor

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◀ Morbark

Beginning summer of 2009, Morbark's Model 3800 and 4600XL horizontal grinder will be able to produce chips in addition to mulch thanks to the company's new Quick-Conversion Kit. The 3800 and 4600XL grinders can be converted to grind chips in less than four hours, according to Morbark, as the conversion requires neither a crane nor

the removal of the entire hammermill. Chips produced are between 5/8 to 3/4 inch, depending on the feed rates.

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▶ Michelin

Built for use in quarries, construction sites, and other work areas with rough terrain, the Michelin XHA2 wheel-loader tire lasts 9 percent longer than its predecessor, the XHA. To achieve high durability, the XHA2 incorporates additional rubber in the treads; the sidewalls are strengthened with a protective rib and anti-scrape shields; and the tire uses crack-absorbing rubber compounds that help prevent flats.



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▶ Gradall

Telestick boom extension has a quick-change feature to efficiently switch attachments and is for use on the Gradall Series 3 wheeled excavators. The extension can increase the reach and range to as much as 50 feet 2 inches on the largest models.

New design incorporates adjustable rod eyes on the dead link and adjusting capabilities to provide proper contact of the stroke limiters. Attachment can be installed in less than 30 minutes using the standard boom-end bucket adaptor and two pins.

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▶ Topcon

Tierra Web-based telematics service from Topcon Positioning Systems provides seamless, customized data transfer from and to in-field equipment, the company says. Wireless system provides a choice of four hardware setups, real-time monitoring of dashboard information, and bidirectional cellular or satellite communications.

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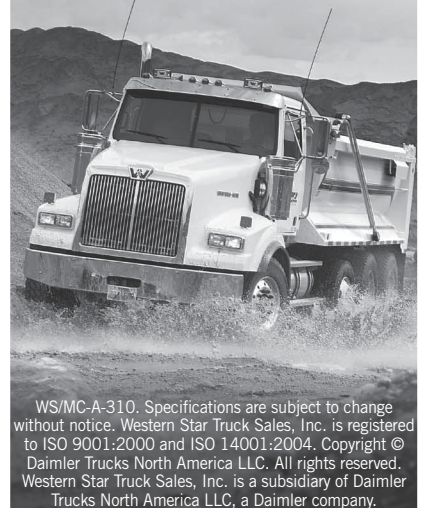
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Market Watch Lite



◀ Eaton

Eaton's new line of silicone hose for extreme temperature, vibration, and chemically challenging applications is available in sizes and configurations suitable for use on turbo and charge air coolers, heater circuits, and coolant system connections at temperatures from -65 degrees Fahrenheit to 500 F. Silicone provides the mechanical properties and chemical resistance in temperature extremes that traditional elastomers cannot meet.

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▼ Intellitec

Pressing the button on Yard Dog's key-fob control disables and enables construction machines' electrical system to guard against equipment theft. Yard Dog's wire-



lessly controlled relay, which disconnects the battery from the starting circuit, is designed for easy installation. Because it isolates the

battery from the load while the vehicle is not in use, it prevents battery drain. It retails for \$225.

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▼ Stihl

Designed for use with the TS 400, TS 410, TS 420, TS 700 and TS 800 Stihl Cutquik cut-off saws, the Cutquik cart improves handling and cutting performance with a forward-weight orientation for making long, straight cuts like expansion joints or squaring off edges in asphalt. A cut-off saw can be quickly removed from the cart without requiring tools.

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CORPORATE PROFILE

Atlas Copco Construction Equipment LLC is responsible for the sales, aftermarket service and rental of portable compressors, generators, tools and attachments used in the construction and demolition industries. The company is headquartered near Denver, Colorado. The business extends its reach through a nationwide network of sales and service stores and specialist distributors. More information is available on www.atlascopco.us.

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Atlas Copco

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CORPORATE PROFILE

Based in West Fargo, N.D., Bobcat Company leads the industry in the design, manufacture, marketing and distribution of compact equipment. Bobcat has more than 900 dealers located in more than 100 countries, providing compact equipment throughout the world.

The compact loader was invented in 1957 by brothers Cyril and Louis Keller. The loader came to the attention of Melroe Manufacturing Company, which later purchased the rights to the machine and hired Cyril and Louis Keller to refine the design and put the machine into production.

Today, Bobcat has an extensive line of compact equipment, including skid-steer, compact track, all-wheel steer and mini track loaders; compact excavators;

compact tractors; utility vehicles; the Toolcat utility work machine; VersaHANDLER telescopic tool carriers; and front-end and three-point hitch attachments.

In 2008, during the 50th anniversary year, Bobcat manufactured its 750,000th skid-steer loader — more than all other brands combined. In 2009, Bobcat introduced its newest generation, the M-Series, of compact loaders and excavators — still the only compact excavators produced in North America. Also in 2009, officials from the Smithsonian's National Museum of American History announced that they acquired 56 cubic feet of Bobcat archival materials, which will now permanently be housed at the museum's Archives Center to preserve Bobcat history.



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CORPORATE PROFILE

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ing fuel efficiency. The package comes standard with an aftercooler, allowing water to be removed from the air for more controlled quality of air for downhole drill or membrane applications. The oil carryover is less than 2 ppm resulting in less contamination of filter membranes and reduced oil cost between changes.

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CORPORATE PROFILE

Power Curber 5700-C

The Power Curber 5700-C is a slip-form concrete paver designed primarily for pouring curb, curb and gutter, sidewalk, and barrier wall. When fitted with additional molds the 5700-C can be adapted to pour concrete in a variety of applications including golf cart paths, foundations for dairy and poultry barns, and stadium risers.

The machine's most popular features include an auger conveyor, tight radius steering capability, and the ability to pour from the left or right side of the machine. The 5700-C's flexibility allows contractors to pour applications from tight radii on parking lot islands, to large highway barrier wall, to 10' wide concrete paving.

Power Curbers Inc., headquartered in Salisbury NC has been in business since 1953 and does business in over 80 countries. In addition to the 5700-C, Power Curbers manufactures two smaller extruded curb machines the PC 150 and 440-XL, which are typically used in pouring small curbs around parking lot perimeters. Power Curbers is the parent company of Power Pavers Inc. of Cedar Falls IA. Power Pavers manufactures large concrete slip-form pavers which pave highways and airport runways.



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Bobcat Demos M-Series Machines

At a media event in early June, Bobcat took the wraps off its new M-Series loaders and excavators, and *Construction Equipment* editor Mike Anderson was there to get a first look at the S650 skid steer loader, E60 excavator, and T630 compact track loader.

The M-Series loaders feature a more spacious, cab-forward design for improved visibility and operator comfort, as well as a claimed 15-percent-plus hydraulic horsepower increase boosts attachment performance.

Competing in the 6-metric-ton class, the E60 excavator has a dig depth of 13 feet 7 inches, and features a spacious cab and an HVAC system with true automotive-style controls.

Watch Bobcat's new machines at ConstructionEquipment.com/Digest.

Latest Big Iron Blog Posts by CE Editors

- Larry Stewart asks: "Is Caterpillar's D7E Hybrid Bulldozer Worth 20% More?"
- Mike Anderson tells how he came across an old Nelson wheel loader at a friend's farm. Have you ever heard of or operated a Nelson loader? If so, tell us about it at ConstructionEquipment.com/BigIron.
- Rod Sutton explains why it is important for fleets to have a strategic emissions compliance plan.

Construction Equipment Is on Twitter

Follow *Construction Equipment* on Twitter to find out what's going on in the construction industry, from news about stimulus funding and emissions regulation to updates on the latest heavy equipment introductions. To read our daily posts, head to Twitter.com/ConstructionEqt.



Watch Morbark's Upgraded Grinders

At its Demo Days event in May, wood-grinder manufacturer Morbark showed of its freshly upgraded units, including a tub grinder and Wood Hog that now have tracks; wood chippers with telematics capability; and a quick conversion kit that turns the company's horizontal grinders from a mulching machine to a chipping machine in a matter of hours.

Head to ConstructionEquipment.com/Digest to see how the quick conversion kit and telematics system works.

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