FALL 2009

# Equipment Manager

Official Publication: AEMP


## The Safe Road to Heavy Hauling

**Page 16**



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# Equipment Manager

Fall 2009

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# A Future Focus

*By Mike Bates, CEM, 2008-2009 AEMP National President*

The skill set, productivity and reliability of the modern equipment technician is truly amazing. In fleets maintained by skilled technicians, breakdowns are the exception rather than the rule.

Manufacturers have evolved their products to the point an equipment manager can locate his machine; track utilization, fuel consumption, and loaded condition; and plan maintenance while never having to leave the comfort of his or her office. The field of heavy equipment is changing, and so are the skills needed to maintain the equipment. The modern technician not only has to possess a mechanical aptitude, but also a desire for lifelong learning in advanced computer technology, electronics, safety, pollution reduction, fuel economy and communication systems.

The technician behind the machine is truly the key to reaping the benefits of today's accommodating technology. And as access to a wide variety of machines has increased, the availability of skilled technicians continues to dwindle.

Here's an impressive statistic: the Bureau of Labor Statistics projects that the need for technicians will grow 11 percent over the next 10 years. Yet during that same time, a large portion of current technicians will begin to retire, making the demand for skilled diesel technicians even more urgent.

The Association of Equipment Management Professionals has a vested interest to encourage and aid the technicians of tomorrow. The AEMP Education Foundation was created by the membership for this purpose. To address the impending shortage of technicians, the Foundation is increasing its efforts to aid students interested in heavy equipment technology. In 2009 alone, the Foundation awarded 15 scholarships: nearly double the amount of scholarships awarded in 2008. Last year, the Foundation received a record-breaking number of applications. I am encouraged to see so much interest in a career that has served not only myself, but many others well over the years.

Diesel engines are the workhorses of our nation. Without the skilled technicians who keep this equipment operational, many industries — mining, construction, infrastructure — would cripple. As for me, I am proud to have built a career around something I love and something that makes such an impact on America. I actively encourage young people to consider the career path I chose. The numbers are daunting, but with raised awareness, financial aid and peer encouragement, I know our industry will rise to the challenge.

## AEMP AND CONSTRUCTION EQUIPMENT

# Introduce Regional Educational Classes

Travel restrictions and budgets are tighter than ever. With this in mind, AEMP and *Construction Equipment* have been busy developing a new educational offering: Best Education for Asset Managers (BEAM).

AEMP and *Construction Equipment* are committed to helping you and your organization succeed in a changing marketplace through professional development. This initiative offers intimate, high-level education close to home. This makes attending our educational offerings easier for those who may not have the time or funds to travel to the AEMP annual meetings. Seminars will be held multiple times each year, each in a different location.

According to Jim Phillips, Education Director for AEMP, "BEAM is an opportunity for us to improve service to the equipment industry by bringing up-to-date topics and expert speakers to regional learning sessions."

The first BEAM class will be held Nov. 12, 2009, in Cincinnati, Ohio. The topic will be "Repower, Retrofit and Anti-Idle Technologies." Industry expert Joe Mastanduno will share what asset managers need to know about seeking grants from the EPA and state regulatory agencies. The seminar will provide insight into the application process as well as the retro and repower technologies available.

# Fleet Masters and Technician of the Year


Now's the time to start your entry for the 2010 Fleet Masters Award.

It is not too early to consider recognizing excellence for the 2010 Fleet Masters and Technician of the Year (ToY) awards. Each year, the Association of Equipment Management Professionals presents awards to professionals who meet challenges and excel in their field.

The Fleet Masters award is presented to first-rate equipment management teams who employ best practices with measurable results. Each year, one award is given to a private fleet and a public fleet. Competition is open to the industry; you need not be a member of AEMP to win. For the 2010 competition, AEMP is rewriting the application and judging criteria in hopes that the new application will be more objective and easier to complete.

The Technician of the Year award is presented to technicians who exemplify the modern, professional technician. Eligible candidates are innovative, technically proficient and are well versed in technology and safety. The ToY award is presented to one public sector equipment technician and one private sector technician. This award is also open to the industry.

Nominations are due Jan. 29, 2010. For more information on the application process, contact Sara at AEMP Headquarters.



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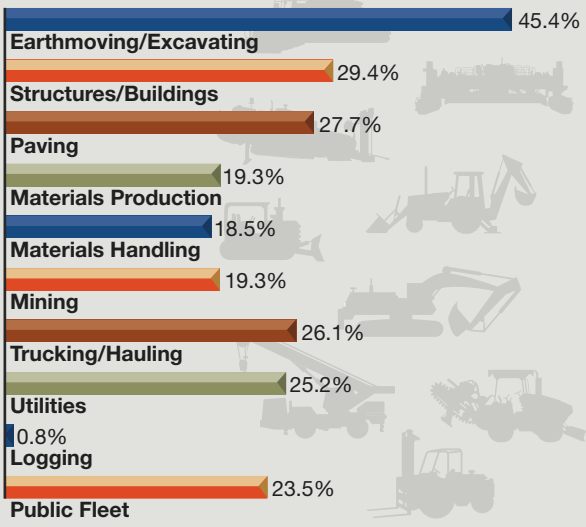
# AEMP Conducts Membership Fleet Survey



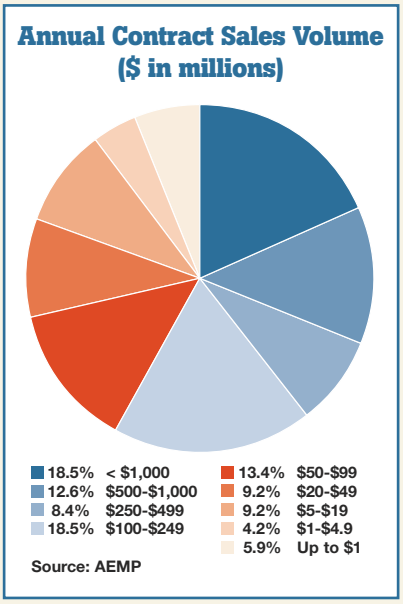

In August 2009, AEMP members were asked to participate in a survey about their fleets. The survey questioned members on:

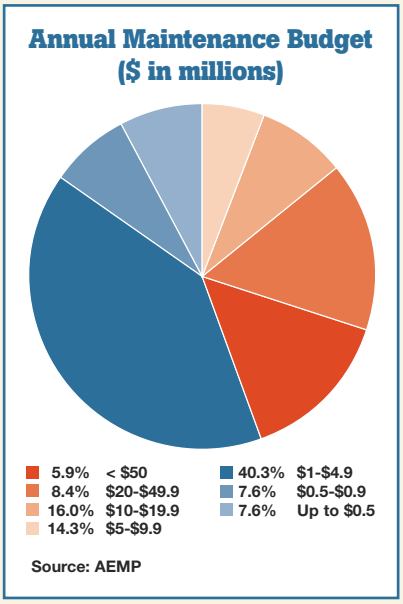
- Core business
- Annual sales volume
- Fleet replacement value
- Maintenance budget
- Acquisition preference
- Purchase decision criteria
- Fleet composition

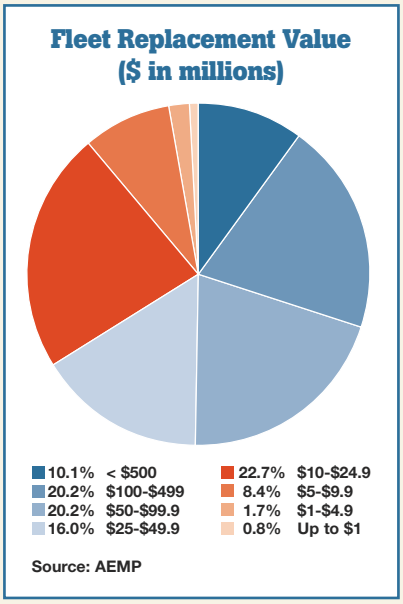
The information gained from this survey is helpful in providing a snapshot of the typical AEMP member. The data demonstrates to the AEMP Strategic Alliance Partners the membership's purchasing and decision-making authority. AEMP Executive Director, Stan Orr, CAE, states the survey results "give a clear picture of the critical role AEMP plays in the industry."

## DID YOU KNOW:

- More than 45 percent of surveyed members describe their core business as "earthmoving and excavating."
- Members describe quality as the most important purchase decision criteria. Relationships with the provider were ranked as the least important purchase decision criteria.
- 96 percent of surveyed members utilize short-term rentals.
- On average, an AEMP private fleet contains 1,075 pieces of equipment, including 24 crawler hydraulic excavators, 58 wheel loaders, 40 rollers and compactors, and approximately 213 light-duty trucks.
- The average maintenance budget of an AEMP member is $7.4 million. AEMP members have a maintenance budget of more than $10 million.



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- ✓ **How do they compare to equipment-management teams nationwide?**

The Association of Equipment Management Professionals (AEMP) Fleet Masters Award is presented to exceptional equipment professionals who excel in meeting the unique challenges inherent in cost-effective, efficient and effective management of fleets that combine on- and off-road equipment. The competition is open to the entire industry; you do not have to be an AEMP member to enter.

Two Fleet Masters Awards are presented each year – one to a Private fleet-management team and one to a fleet-management team in the Public Sector.

The awards will be presented at the AEMP Annual Meeting, March 14-16, 2010, in Dallas, Texas.

***For application information, visit www.aemp.org or call 970-384-0510.***

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**To apply for membership, go to www.aemp.org.**

The subscription rate for members is $80, which is included in the Association's annual dues. The U.S. subscription rate for non-members is $150 for one year and $275 for two years. Canadian subscribers add $5 per year; all other non-U.S. subscribers add $10 per year. POSTMASTER: Send address changes to: Association of Equipment Management Professionals, P.O. Box 1368, Glenwood Springs, CO 81602.

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The Certified Equipment Manager (CEM) Certification program was developed by AEMP and is the recognized certification in the industry. The CEM program is designed to evaluate professional standards, enhance individual performance, and recognize those who demonstrate knowledge essential to the successful practice of equipment maintenance and fleet management.

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# The Safe Road To Heavy Hauling

## Fraught with risk, moving machines can be done with proper preparation, equipment and training

*By G.C. Skipper, Contributing Editor*

One of the most difficult tasks fleet managers routinely face is moving over-sized loads or heavy equipment from one location to another.

In a word, the job is dangerous. To haul heavy loads safely takes the right equipment, the right driver, the right load securement, the right routes, the right escorts, the right permits, the right license, the right insurance, and strict adherence to the right regulations, which can change from state to state.

With all these "rights" playing into the picture, there is little wiggle room for a "wrong." One call from one driver with a tall load stuck under a bridge is a real attention-getter.

In fact, among the most difficult loads to transport, according to Darrell Hendrix, vice president of operations for Specialized Transport Services, a company that specializes in heavy hauling, are tall loads. "They're more difficult than wide ones because you have to push wires and traffic lights up so the cargo can slip under them."

Hendrix said his company normally puts skid poles on top of the load. "The wires hit the skid poles and ride up over the load," he said. "However, in states where loads in excess of 18 feet, for example, are allowed, the transporter is required to have bucket trucks that go along with the load. When you get to a wire, or a traffic light, the bucket trucks push the wire up for you to get under it."

Hendrix uses private companies for the bucket truck escorts, but when traffic lights are involved, he said, he calls on bucket trucks from municipal fleets.

Although loads stuck under a bridge make interesting scenarios for comedy writers, in reality they are anything but funny, said David T. Doss, CEM, equipment maintenance supervisor, City of Virginia Beach Public Utilities Department.

"I've known contractors to literally go bankrupt because they hit a $15 million bridge," he says. "That will wipe you out. That is why communications between the truck driver and the escort vehicle in front of him is critical.

"Cell phones are not considered as proper communications," he says. "You have to use CB, or two-way radios, for back and forth communication."


This Volvo A25 articulated dump truck loaded and ready for hauling to a jobsite by Cajun Construction.

One of the most difficult pieces of equipment to transport is a crane. A Cajun Construction trailer moves a Manitowoc 4000V crane.

When escorts are required, "you have a set of eyes in front of you and a set of eyes behind you," he says. "This also applies to dump-truck drivers as well as drivers pulling low boys. For example, if you have a dump truck pulling a 20-ton tag trailer loaded with a backhoe, and that dump's destination is a subdivision, you need a co-worker in a utility truck to go ahead of you. The co-worker checks to see if there is limited turning space. For the dump truck driver — and the fleet manager — it's nice to know he won't jack knife the trailer and start snapping lines left and right trying to turn around."

Doss also pays attention to the 14-hour rule for drivers, and the terrain they'll be moving over. A move across flat terrain will be less stressful than one that traverses hills, he says. "[If the driver is] coming down the hills of West Virginia, he's having nightmares about brake fires as he comes down the other side of a hill."

Transporting heavy equipment safely is actually a combination of man and machine, and fleet managers agree that both are critical.

"You don't just go out and buy a tractor and trailer to haul this stuff," says Ricky Aubin, transportation supervisor at Cajun Equipment Services. "The brand of the truck doesn't matter. What's important is how it is set up to pull. For instance, with an 80-ton trailer, you don't want a truck with a high gear ratio. You'll tear the truck up. You might have a three- to four-axle low boy loaded with a 12-axle or 13-axle machine. You have to know what the weight of the machine is and what you can scale out in each state. Each state differs in what it considers legal weight.

"Just the tractor and trailer alone is an investment of about $250,000. And that doesn't count the price of the equipment you are transporting."

At Cajun, driver training takes top priority. Aubin says driver training is intensive and covers everything from keeping the right distance from the vehicle in front of you to load securement training, which includes how to load different types of cargo, how to put loads on a trailer, how to chain them down properly, and how to deal with load distribution.

As for behind-the-wheel training, Cajun puts each driver through an annual update on skills by using a simulator similar to airline pilot training simulators. "The simulator comes in here once a year and we put drivers through an eight-hour course," he says. "They have to review and update their skills every year."

Aubin looks for drivers with at least five years of hauling heavy equipment, although he concedes they are hard to find.

"Most guys who know how to do it and have done it for years stay with the same company and don't leave," he says. "Companies make sure they keep drivers around. I know I try to keep my experienced drivers happy so they don't want to go somewhere else."

Robert Andrade, CEM, vice president of equipment asset management for Parsons Construction, also looks for experienced drivers.

"Drivers must be trained," he says. "When I say trained, I'm talking about people with five years experience or more. Hauling heavy equipment has too much liability associated with it. In fact, I don't let junior people around these loads."

Training goes beyond just knowing what to do behind the wheel, according to Doss.

"They need to be aware of the rules pertaining to hauling the

loads, aware of load securement laws, learn what permits you have to contend with in the operation of the truck, learn the materials that you need to do the hauling, and learn about weight distribution of the load," he says. "There are quite a lot of factors involved."

Of all the safety precautions involved with moving heavy equipment, two of the most critical are making sure the load is secure, said Aubin.

"Drivers have to know how many chains to put on a machine and where to put them to hold the machine to the trailer," he says. "The second most important thing is knowing how to transport the load down the highway after you leave with it. You have to know where you are and what you can and cannot do."

Haulers should be aware of their route before leaving. Doss recommends a pre-trip inspection because "after you do leave, your name is on the contract and you are responsible for that rig when you are on the roadway."

"You should run your routes in advance to make sure the load dimensions are correct in relations to the route limitations or unique obstructions," Andrade says. "There are always situations where the load may be a little higher or lower than it should be. If the driver gets into a tough spot by surprise, he can't back up, so he needs to know how to get out and strip the cargo, if necessary."

## In-house Hauling or Outsourced?

Despite the risks, liabilities and training involved with moving heavy equipment, many fleet managers shoulder the burden themselves, rather than outsourcing the moves, says Hendrix at Specialized Transport Services. Outsourcing is an option when the fleet manager's own trucks are not in the right place when they need the equipment moved, or if they're too busy to keep up with the volume.With companies that don't own their own trucks, Hendrix said, the reasons vary.


An oversize load prepares to leave Cajun Construction facilities.

"Many don't want to be in the trucking business," he says. "They don't want to have to deal with drivers, permitting or insurance," he says. "Some of our customers have enough volume to have a fleet of 20 trucks, but they choose to outsource the hauling."

Other times, he says, "We're like the fire department. Sometimes fleets try to cover the loads themselves because they don't want to hire them out, and the next thing you know, they've gotten behind and they're calling us, saying we need a truck today."

Doss says he considers several things when deciding whether or not to keep a heavy equipment move in-house. He looks at the size of the load, whether escorts will be needed or not, the location and distance of the haul, and whether the type of load is conventional, hazardous material or a super load.

He also considers circumstances. "If something happens in the wee hours of the morning and I've got everybody out, or if my drivers have reached their hour limitations, then I will outsource the haul. I'll put it on a private carrier."

Andrade moves his own heavy equipment. Although it's less expensive to do heavy hauling in-house, he does it because he can control the logistics.

"You have to have a maintenance crew when the shipment arrives. When you have control of the trucks, you know people are going to be there when it arrives."

"From a proactive standpoint, you need to know where the load is, when it's going to get there and when it will go back in service," he says. "When you outsource that responsibility, some brokers use drivers who are owner operators. We've had drivers take off — literally — and go home for the weekend and disappear. If you're moving a crane, for instance, you might have nine or 10 loads, so you can't have one disappear. This could hold


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up reassembly, thus delay an entire crew of men, trucks and assist mobilization equipment."

Aubin also finds confidence in having control over drivers. "You know the drivers and their capabilities and know if they can or cannot haul that particular piece of equipment," he says. "Our drivers go through rigorous safety programs, driving programs, are trained thoroughly on how to chain down each piece of equipment, so by making the move yourself you feel safer. I get a better feeling when our guys haul our equipment."

Due to Cajun's experienced drivers, the company also hauls for other companies, which makes up about 50 percent of Cajun's total hauls.

"We haul for local contractors and for out-of-state companies," Aubin says. "We do a lot of moving from one state to another."

Aubin lists three keys to successfully implementing in-house hauling. Set up all the infrastructure, including insurance, permits, liability and other paper work. Second, have the right equipment for the right job. Finally, make sure you have qualified drivers.

Across the board, fleet professionals interviewed do not use drivers who are designated for the sole purpose of moving heavy equipment. These drivers are also used for other truck-related functions.

"I don't have one driver specifically set up to haul just one thing," Aubin says. "My guys are diversified. They can haul flatbed, goose necks, haul heavy equipment, and most of them can operate the equipment they haul." Often, there's no one other than the driver to load or off-load the machine.

Heavy equipment awaiting loading onto barges for shipment. (Photo courtesy of Parsons Construction).

## By Land or By Sea

**Rail and marine are two alternative methods to the moving of heavy equipment by more conventional over-the-road routes.**

Robert Andrade, CEM, vice president of equipment asset management at Parsons Construction, has done it both ways. There isn't much difference between the two, he says. The key factor in both scenarios is a rule of thumb lifted right out of Real Estate 101: location, location, location.

"If you are close to a rail spur, there are situations where it is more effective and less expensive to move the equipment by rail," Andrade says. A train may be the best and easiest way to go, especially if faced with transporting difficult equipment that has to be routed all over the country due to its weight and size.

"If there's no hurry in getting the equipment to its destination, I would send the heavier pieces by rail because you can get more on a rail car," he says. "That in itself eliminates three truck loads in relation to bulk and/or weight on a 200,000-pound load carrying-capacity railcar."

Marine is similar to rail, again, if access to loading docks is no problem. "For one thing, you may not have to ship it as far," he says. "There are very large pieces that you can get onto barges with less tear down and reassembly."


If you don't have access to barges, he says, the cost of getting the equipment to the marine access point might well be prohibitive.

Andrade advised fleet managers to run a cost analysis on each method of shipping and know exactly what's involved.

"There is an art to it," he says. "If you don't have that type of background or intuition, you don't want to mess with it. There could be transportation saving, but also a reduction in liability exposures in transporting through different jurisdictions where the reduction in risk management is the swaying factor over freight cost or remobilization."

## Risk Management

Taking some of the risk out of the risk management of moving heavy equipment safely is, not surprisingly, technology that has quickly evolved throughout the industry.

"Safety has come a long way, and the job now is easier due to truck and trailer technology," Aubin says. Now we have GPS, we have hydraulic necks on low boys instead of the old manual type that you had to fold down. Everything has gone to hydraulics and air. Technology not only has made the job easier, it has made the job faster and more efficient. You can get in there, get the job done, and get out."

The key to safely hauling heavy equipment is the experience and training of the driver. As part of its driver training program, Cajun Constructions uses a simulator every year to upgrade and update the proficiency of its drivers. The company's safety coordinator, Bill Easterling, shown here, demonstrates how the simulator works.

GPS makes it easier on everyone, Doss says. "If a driver has to take a detour off the Interstate, you put in the new information and it reroutes you so you won't lose any time. But the federal government is now saying these devices could cause the driver to be distracted, just as cell phones do. I'm sure laptop computers will be next on their list. In the meantime, it would probably be a good idea for drivers to pull off at a rest stop to make the changes or to check their e-mail. But that brings you back to the time factor, and time is money."

Also, Doss said, crash ratings on the vehicles are higher now, and aerodynamics is better, which saves fuel. "Everything is pretty much electronic," he says. "Not only is the equipment itself better, but truck ergonomics make it easier on the drivers. Today they're not getting beat to a pulp behind the wheel."

Scheduling and logistics differ by company size, Andrade says, and preparing for a haul differs by piece of equipment.

"In some companies, one person may handle it all. Another company may have a team of people, with different people having different areas of responsibility in relation to the complexity of the loads.

"[Preparation] could take up to a week, which is an average time for a heavy load, or it could take three weeks for multiple, super-sized loads, coordinating maintenance assembly crews, the entire process can be a long time."

Moving heavy equipment is risky business from any view point, not the least of which, said Andrade, is dealing with the public. "There is always a lot of liability in that," he said. "It's one of the riskiest things a fleet manager can do." **EM**

## Safe Hauling Tips

- Prepare thoroughly for the move, and if possible, prepare in advance
- Have the proper trailer for the equipment being hauled
- Make sure the load is secured and distributed properly on the trailer before it leaves the yard
- Use only drivers who are properly trained and experienced in hauling heavy equipment; the more experienced the better
- Use only drivers who are trained thoroughly in how to secure loads safely
- Be sure drivers can operate the equipment they are hauling since they may have to load and unload the cargo
- Allow sufficient time to obtain all permits that are required
- Be familiar with regulatory requirements in each state through which the load will travel. Regulations can vary from state to state.
- Run routes in advance


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STRATEGIC ISSUES

# Foundation Tackles The Big Issues

## Revitalized education group awards scholarships, recognizes excellence, and has a new focus on fundraising

*By G.C. Skipper, Contributing Editor*

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Seldom does one single group target two major industry issues simultaneously, but the AEMP Education Foundation is one of the exceptions.

The issues are 1) addressing the technician shortage in the heavy-equipment industry, and 2) raising the awareness level of maintenance and asset management as a profession.

Either undertaking is formidable, but the Foundation has made significant progress on both fronts during the past decade. The Foundation was established in 1990 and evolved into a position of influence under the guidance of Robert Decker, who was chairman of the board of trustees from 2004 until 2008.

"Bob Decker really got things rolling several years ago, says the current chairman, Thad Pirtle, CEM. "That's when I came aboard. Decker was the one with the big fund-raising ideas and the one who helped decide where we should go with it."

Pirtle says the Foundation started out by funding AEMP's Certified Equipment Manager (CEM) program, conducting on-going research and curriculum development. Now that that has been completed, "our main focus now is on scholarship funding, such things as acquisition of funds, donations, that type of thing," he says. "That's the main focus on the table right now."

Since the beginning, the objectives of the Foundation have not changed much, Decker says. "It was set up to provide a resource — and it always will be — to provide funds to individuals who want to get into this industry as heavy-equipment technicians.

"That's my background and the background of other trustees," he says, "and we want to keep it going. Through our scholarship program, we want to make students and others aware that the heavy-equipment-technician position is a good-paying job.

"Thad Pirtle has the same passion I have: to give something back to the industry that has given me a good career. The scholarship program is one way to do that."

Despite the fact that today's crippled economy — along with the nationwide lay-offs that have accompanied it — has taken some of the edge off the demand for technicians, the problem is still there and most certainly will resurrect itself when times are better.

To frame the problem more pre-

cisely, Roger Mohr, director of the corporate business division of John Deere Construction & Forestry, says, "The technician shortage isn't quite as critical today as it was two years ago. To give you an idea of the magnitude of the situation, however, a company the size of John Deere was adding 500 new technicians a year throughout North America."

One of the major steps the Foundation has taken to plug the technician gap is the establishment of a scholarship fund for young people and individuals of any age who, in the words of Stan Orr, CAE, the Foundation's chief staff officer, "have a desire to make a career of the technician profession."

Since the program was launched in 2006, the number of scholarships, ranging from $2,000 to the $3,000 Selzak Award, has doubled every year. This year 15 scholarships were given and the group's goal is to double that amount next year, Orr says.

"We started small," he says, "but if we can continue to build the critical mass, we can truly make an impact on the global technician shortage."

AEMP and the Foundation are out to dispel what Bob Decker calls the "Gomer Pyle image" of technicians. "We don't refer to them as mechanics anymore because that term doesn't fit the skill set. The equipment they work on is highly technical and computer-driven," Orr says.

Mohr, who serves on the board of trustees and whose company is a strategic partner with AEMP concurs.

"In an effort to increase machine productivity and customer profitability, new features like electro-hydraulics, integrated grading systems, and computer controlled machine functions have created very complex and increasingly sophisticated products that require highly skilled technicians to diagnose and repair," Mohr says. "To meet these constantly changing requirements, technicians need to be motivated to continue to learn and master a proficiency in the technologies that have been incorporated into today's machines and those technologies that are yet to come."


**Michael Colyer attends Rend Lake, an Illinois community college that offers technician training in heavy equipment. Colyer was the Foundation's first Slezak Award winner.**

The scholarship program works this way: Each year the Foundation sends out information to high schools letting them know funds are available and what the criteria are to apply for those funds. This mailing reaches approximately 7,000 counselors, Orr says.

"The first year we did it, we received only a few applications," he says. "This year there were so many applicants we couldn't fund them all." Along with the application, the scholarship candidate also must submit transcripts of school records, letters of reference, and identify the school they plan to attend.

The flood of recent applications is not without its lighter side, Orr pointed out. Since the Foundation began stressing the term "technician," it has attracted, "students who will apply for anything," he says. "One of the applicants told us she wanted to go to beauty college."

After weeding out such misdirected requests, scholarship administrators rank the qualified applicants based on certain criteria that are set by the board of trustees. The screened and ranked applications go to the board where they are reviewed "very carefully," Orr says. "The Trustees make the selection process after that."

In addition to the scholarship program, the Education Foundation has funded other projects, including

a total revision of AEMP's CEM certification exam, a credential that elevates fleet professionals and asset managers education and standing in the industry.

Another way the group elevates the image of the technician and increases the profession's awareness level at the same time is through its Technician of the Year Award program.

"With the support of John Deere and Qualcomm, the Technician of the Year Award publically recognizes the most outstanding public and private fleet technician, which over the years has grown in status," Orr says. "This helps raise the awareness of the critical role technicians play in keeping our nation's off-road fleet moving."

One of the 2009 Technicians of the Year is Dennis Kincade, maintenance supervisor employed by York (PA) County Vehicle Maintenance. Kincade has been a technician for 40 years. This is the first national award he has received during his entire career, he says.

"My boss came to me and asked if it was okay if he submitted my name for the award," Kincade says. "I said okay, and I won.

"People are not aware of the advantages and benefits of the profession," Kincade says. "Even among the young people we work with in high schools we've found a considerable lack of work ethic. We can correct that to some degree, but many still think of this job as dirty, hard work, the grease-monkey type of job. I believe they would change their thinking if they really knew, especially in today's atmosphere of computer controlled vehicles, how much fun it is to try and fix a computerized machine."

Kincade says the Technician of

## Honoring Excellence

Not many teenagers have scholarships named after them. But David Slezak, an 18-year-old Pennsylvanian, received such an honor in 2006.

Stan Orr, CAE, executive director of AEMP, called him "a legacy," noting that David followed in his father's footsteps. His dad was a foreman at P. J. Dick Trumbull, an AEMP member company.

Roger Mohr, director of the corporate business division at John Deere, said Slezak was "a pedigree of what we were looking for" when the Foundation established the scholarship program. He was excited about being considered for the scholarship, and he looked forward to that year's Fall semester when he would begin pursuing his chosen career.

So it was not surprising that in 2006 when the Education Foundation selected its first scholarship recipients from high schools across the country, David Slezak was among the chosen few.

But before the Foundation could notify him of the award, David was killed in an automobile accident.

"That was the first year we offered the scholarship," Orr recalled, "and David would have been the first student to receive it." The Education Foundation made the decision to create the Slezak Award in David's honor, a $3,000 scholarship to the student who not only meets, but lives up to, the criteria and quality represented by the award.

The first Slezak award winner, 19-year-old Michael Colyer of Mount Vernon, Ill., has the credentials and the character demanded by the award. As a youngster, he "ran around with" his father in the oil patch working on engines. In high school, where he made "mostly As," he was a member of the Future Farmers of America (FFA), and during that time won an agricultural technician contest. While in high school, when he wasn't winning awards, he worked in a machine shop and also picked up experience rebuilding engines.

'I've always wanted to be a technician," Colyer says. "I heard about the AEMP Education Foundation scholarship and applied for it. I won the Slezak Award."

Colyer investigated Rend Lake, an Illinois community college that offers technician training in heavy equipment. He found out the school would waive the tuition for anyone who won a contest that involved parts recognition and a written exam, and went for it.

Colyer won that, too. After he graduates from Rend Lake, he said his future plans will be determined by the opportunities that come up. Whatever they are, he, and the Foundation, are certain he can find his place in the heavy-equipment industry.

In the meantime, Colyer said, "I just want to give AEMP and the Education Foundation a special thanks."


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the Year Award is "a good start" in changing the public's perception of the job. "I really like the idea of AEMP providing scholarships to young people to get them into this field."

"The resumes of technicians who have entered over the years have been very, very impressive," Mohr says. "These individuals are educated in the latest technologies, have a broad range of experience, and exhibit leadership skills that result in tremendous contributions, not only to their firms, but to the industry. The Technician of the Year Award is like winning an Academy Award for the best actor or best actress in the movie industry. We feel this recognition is very important because technicians are infrequently recognized for their critical contributions as they are normally only called upon when there is a crisis or a problem."

The AEMP Foundation objective is to generate funds to support technical career paths, including scholarships, Certified Equipment Manager curricula upgrades, and the annual Technician of the Year Award. Funding to accomplish these objectives comes from a variety of sources, including AEMP member and member company donations, Foundation Strategic Partners, corporate contributions, and unique and innovative fundraisers.

Among the latter was the creation of a Monopoly-like board game called "Technician Hunter," says Mohr. The Foundation developed the game based on a career in the heavy equipment maintenance and management profession.

"We sell those board games as a fundraiser," he says. "Additionally, the games are given to high schools and technical schools as a way to attract young people to our industry.


**The Technician of the Year Award helps raise the awareness of the role technicians play in fleet performance. Dennis Kincade, York County, Va., is this year's public sector Technician of the Year.**

Other sources of funding are the silent auctions at AEMP events, as well as an annual online auction through IronPlanet.

Orr says the Foundation raised a little more than $160,000 through various fund-raising activities, including two IronPlanet auctions. "The first year we held an auction, International was very gracious to donate a new dump truck to be auctioned off," he says.

In keeping with AEMP's Equipment Triangle philosophy, efforts to attract heavy equipment technicians and maintenance and asset management professionals are being made on yet another front: partnering with other organizations, such as the Association of Equipment Manufacturers and the Associated Equipment Distributors. "We are trying to build some synergy on the three sides of the triangle," Orr says. "This is very important."

With so many simultaneous advances made on its two-front educational war, some Foundations might be content to rest on their laurels. Not this one. As for the future, says Orr, the Education Foundation has a lofty goal — no less than making asset management, equipment management, and technicians "the professions of choice made up of well trained, well compensated professionals." **EM**


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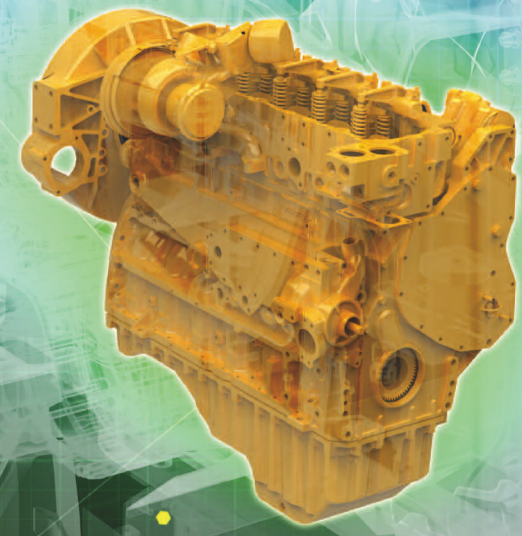

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# Cost Savings Through Equipment Rotation

## Audits help Manatee reap the benefits of placing machines according to utilization rates

*By G.C. Skipper, Contributing Editor*

Utilization audits and lifecycle studies may be common practice among public and private fleet professionals, but some equipment managers simply do it better than others.

One operation that has fine-tuned the practice almost to an art form is AEMP's 2009 Public Fleet Master, Manatee County (FL) Fleet Services. The county was able to dodge $4 million in costs during 2008 and is on track to save another $2 million this year by rotating equipment based on utilization audits.

The man managing the Manatee County fleet is Michael Brennan, CEM, who says the first step in utilization audits — sometimes called cascading equipment — is an in-depth lifecycle analysis of the equipment. Brennan's 2008 analysis included a look at vehicle utilization, not only fleet wide, but also by class of vehicle, by department, by account, and by other classifications. Usage data was captured through an automated fueling system, CCG FASTER, and transferred to Manatee's maintenance-management system.


Mike Brennan, CEM, uses life cycle analysis to "cascade" machines to secondary usage. This saved Manatee millions in capital expenditures the past couple of years.

"This system gives us a really accurate flow of data each day that is fed into our management system," Brennan says. "From that point on, it's just a matter of running a simple utilization report by class, account, company or however we want. We look at that when it comes to swapping equipment."

When that report is run by class, as it is for construction equipment, Brennan is able to review, for example, all 4-cubic-yard wheel loaders or all 420 backhoes or all 26,000-pound excavators that are in the fleet.

"We can see who is really using the equipment and who isn't," Brennan says. "When we start to see a big spread between primary and secondary equipment use, we will move the high-usage machine to a mid- or lower-range usage. It's called cascading. We cascade the machines right down the line."

When equipment is rotated, it doesn't surprise any end-users. Various departments that use equipment are visited twice a year; once in April or May when the county is required to do an annual inventory for asset management, and a second time when new budgets are planned.

Another simple tool that helps him make equipment rotation decisions is figuring the average age of the equipment by class. If a 4-cubic-yard wheel loader has a life cycle of 10 years and there are 20 such units in the fleet, the average age of those units will indicate how healthy the fleet is, he said.

"In that case, for instance, the average age should be somewhere between 4-1/2 and 5-1/2 years old," he says. "That tells you that you have a very good rotational program and your units are sliding through quite nicely."

Brennan looks at his entire fleet—construction, agriculture, sedans, emergency vehicles, light machines—using this method. "We have a 9.3- year average lifecycle across our entire fleet," Brennan says. "I lump them all together. At a 9.3 year lifecycle, I want to keep my average age between 4.7 and 5.7 years old. In our geographical area, that is the most economical age to keep equipment running, keep up availability, and keep the shop flow moving."

Because of the quarterly utilization audits and the twice-a-year visits, "operators know that if they have equipment that is heavily used, they probably will get a new machine. If that happens, we take their former unit and move it to a secondary location. This is just part of the system that we have in place," says Brennan.

"Everybody is good to go with it. Occasionally some guy will ask why he always gets a used machine, so we have to explain that that is what the function calls for."

Florida doesn't have a snow season, but equipment rotation does depend on seasonal work. "We have a lot of turf equipment," Brennan says. "Grass grows like gang busters from April to the end of October or November, then it almost stops completely. We know the equipment is not going to be used much during the first and second quarters of the year, so that's when we bring them into the shop for major preventive maintenance. When the season starts in February and March, they're ready to go again."

Equipment rotation doesn't necessarily mean that Manatee technicians have opportunities for additional work. With three shop locations, Brennan strongly believes it is critical to keep a balanced staff of technicians. "I don't want to call anyone into my office and tell them I no longer can afford to pay them," he said. To avoid such situations, he uses vehicle equivalencies to determine how many technicians he needs.

With heavy equipment, Brennan says one technician can handle 76 machines. "This is on average. Some situations differ. I have one guy at my landfill that takes care of 20 pieces of heavy landfill equipment, and he is saturated. To help him out we contract out some of the work. He handles routine maintenance, but we contract out the big jobs such as major overhauls."

Subcontracted work is monitored to make certain technicians have enough work so staff reductions are avoided. When the economy turns around, "Everybody is going to be screaming for technicians. I don't want to lose any of my guys."

All this time-consuming analysis and planning are well worth the effort, Brennan says. For instance, this year he had initially targeted 109 units for replacement.

"We knew what our replacement costs were," he says. "When we finished with the lifecycle analysis and utilization audit and looked at that data, we had reduced our replacements to only eight or nine units. We avoided $3.8 million in capital expenditures. We also reduced maintenance by reevaluating our assignment processes and policies. As a result, annual maintenance costs were cut by about $400,000."

In a recent equipment swap, Brennan said one of the high-use units was rotated to a dam where application was less demanding. "That particular move right there saved us about $250,000 in capital cost. That machine will run at the dam at least another four or five years," he says.

"Even a guy on the third tier of a cascading replacement program will get a unit that is in better condition than the one he already has. If his machine is 12 years old and the one he gets is six years old, the six-year-old machine has a lot newer technology that makes his job easier and more productive."

Not everything is done by the fiscal calendar. If an engine fails on a piece of equipment that's scheduled to be replaced next year, he makes that change in the middle of the year.

In special situations Brennan does dispose of low-use machines. "If we have a unique piece of equipment that we purchased years ago because we once needed it and find out we don't need it anymore, that equipment will go to public auction," he says. "If we do need that machine again, we will rent it, which is more cost-effective."

Brennan suggests conducting a lifecycle study every other year. The market changes, and today is different than it was two years ago.

"The 2008 analysis was the first comprehensive study we had ever done on our own fleet in our own area," he says. "Because it has been so beneficial, we plan to repeat the exercise every two years. After we've done this a couple of times, I believe we will be able to put the data together and chart out an average base line for future projection."

The critical ingredient that goes into this kind of program is solid data, he says. "If you know the data is reliable and you've got accurate historical data that covers several years and several processes, your forecast will be fairly accurate. Of course, the further out you forecast, the greater the margin of error. If you look five years out, you could have a 5 to 10 percent variance," he says. "On that same chart, if you look one year out, you shouldn't have any more than a 3 to 4 percent variance."

All said, it is that kind of meticulous planning and precision that led to Manatee's being named the Public Fleet Master for 2009. **EM**

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# Machine-Monitoring Technology: Tools, Not Gadgets

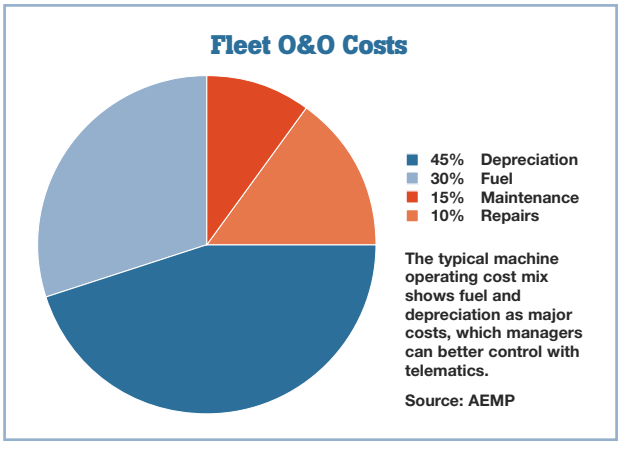
## It's time to integrate technology into fleet practices

*By Ken Calvert*

For the past few years, the OEM community has been rolling out monitoring (remote and on-board) technology that remains under-utilized by many equipment managers. If you are one of the under-users, chances are your reasons for non-use could be summarized by one or more of the following: lack of education, lack of critical mass, or integration.

If lack of education is your issue, solving it starts with the right people at your company understanding that modern construction equipment communicates information via monitor panels and telematics, and that that information is accessible.

Operators need to be reminded that they are the first line of defense against unnecessary downtime and inefficient operating habits. They need to know that the information the machine's monitor panel provides is designed to help them be more efficient and protect the machine from failure. Without training, many operators will not know how to interface with the information nor will they have the same intuitiveness to take action when something is wrong that they have with analog gauges.




If training operators on how to use the monitor panel seems too basic; let me share another's experience. A vice president of mobile equipment at a prominent aggregate company relates the story of one of his quarry managers investigating what he believed to be a preventable engine failure. When he asked the operator why the machine wasn't shut off when it overheated, the operator told him, "I didn't know that '!' was a warning; I thought it was a baseball bat." The story is funny to almost everyone who hears it, but it was not funny to the manger who paid the engine repair bill.

Maintenance staffs must also be trained to read monitoring panels, and then taken one step further and taught how to access the hidden menus that contain error code histories and system diagnostics.

Moving to remote monitoring, make sure people in your organization know which machines have telematics systems and which do not. It's true and understandable when you think of all the ways communications can break down during personnel changes, machines transfers between operations, or separated purchasing and delivery events. If you know you have systems, but the right people at your company don't know how to log in, then getting them access is vital. Access typically only takes a phone call to the dealer who sold you the machine. The dealer should also be able to provide training and other assistance as needed. If you choose a formal training event to introduce telematics, get your staff web access prior to the training. This way they can put their training to use immediately.

And, of course, the Internet is always a safe source for information as all the OEMs have published extensive information about their telematics systems on their corporate Web sites.

The critical mass issue lives for those managers who believe too few of their fleet is equipped with

telematics to make using the systems worthwhile. In the words of one equipment manager, "I've got 2,000 pieces of mobile equipment and seven of them have telematics; I know someday the technology is going to be valuable, but today it isn't." Here are some deciding factors to help you decide to start today.

The fleet's newest, most productive and valuable mobile assets may be the same machines that are equipped with telematics. So even though these machines may be few in unit count, they represent a disproportionate percentage of fleet valuation.

By remote monitoring your telematic machines, you can make inferences regarding your whole fleet. It's safe to assume how the newer machines are cared for is a best case. If you're not maintaining the newer machines, then what's happening to the aged units?

Telematics is still a new enough concept that your staff needs some time to get acquainted. OEM telematic systems offer a large menu of information that at first can confuse new users. But with use, your staff may discover that machine locations and current service meter readings available on the Web site may be more convenient than current methods to obtain this information, and driving directions to the machine's exact current locations may save someone hours of lost time searching.


Operators must be trained so that they can understand the information provided by the machine's monitor panel. This enables them to be more efficient and to be able to protect the machine from failure.

The last big reason, data integration, is often voiced as, "I have a mixed fleet and each OEM has their own telematic system. I just don't have time to visit several different Web sites to monitor equipment."

As a representative of the OEM community, I can assure you that we are aware of the legitimacy of this argument. A group of us are working with AEMP's technology group to standardize a file-transfer protocol that will enable integration of key data elements into end-user back office systems. The purpose for this cooperation is to minimize the need for visiting multiple OEM Web sites to manually extract data.

As important as the standardization of data is, it will not completely replace the OEM's proprietary telematic information. Most OEMs have taken additional steps by making proprietary data more available through e-mail alerts and periodic fleet summary reports.

Regardless of OEM efforts to make the data available at your preferred point of use, OEM Web sites remain the tool for setting up customizable features such as geo-fences and engine locks. And for those instances when a deeper dive into the data is necessary, OEM Web sites contain the most complete machine histories. So even though each OEM has a proprietary Web application, they serve real purpose and have genuine value. To add clarity as to why OEM Web sites will not be replaced, I offer the following two examples.

A mining company with a property adjacent to some protected wetlands was approached by a local activist group concerned that the mining equipment could accidentally operate inside the environmentally restricted areas. As a response, the mining company used the OEM's telematic feature to put geo-fences around the restricted area and then committed to report violations to the appropriate authorities. The mine has operated with the geo-fences for more than three years without any violations, and the concerned activists' fears have been allayed.

An equipment manager with several hundred machines equipped with telematics summarizes the machine's telematic history and includes it as part of the machine sale package. The data confirm the accuracy of the service meter and also gives the potential owner insight into the machine's use and care. This manager believes the telematic documentation successfully differentiates his machines. This use serves as a reminder that good maintenance positively affects residual values, which further contribute to lower owning and operating costs. **EM**

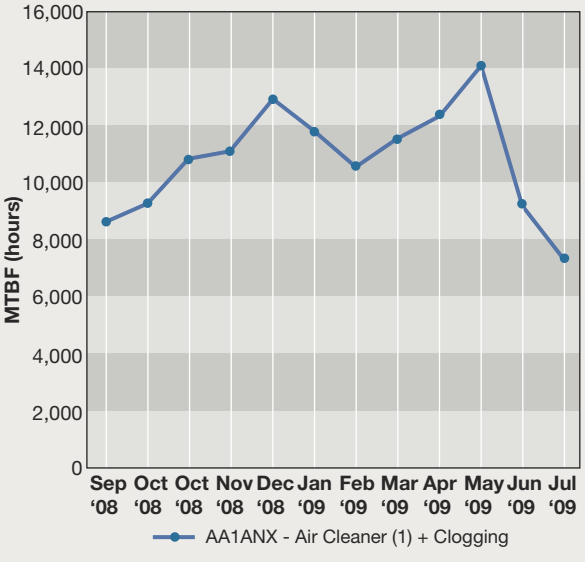
*—Ken Calvert is director, machine support systems, Komatsu America Corp*

# TELEMATICS AND THE EQUIPMENT TRIANGLE

We've been discussing why end-users should use telematics, but the data can also help OEMs and equipment distributors serve customer needs and improve customer satisfaction.

Distributors are becoming more and more proactive because of telematics. Telematic-active distributors have staff assigned to administer Web site access, issue passwords, provide internal and customer training and monitor machines. Equipment monitoring is a very customer-focused activity. Aggressive distributors filter data for those conditions that, left unattended, could cause downtime. This data is then relayed to the customer. If you're being served by one of these distributors, then you may have received a phone call informing you of an overheating machine or maybe a low oil pressure issue. Think of these distributors as a second set of eyes. And, of course, forward-thinking distributors are using telematics to improve internal efficiencies such as inventory planning or dispatching field technicians nearest to the service call to reduce travel time and mileage charges.

Mean time Between Failures by Abnormality Code




Keeping an eye on key data points over time can help determine maintenance procedures.

Speaking for only my own company, proactively using telematic data is a key continuous improvement activity. With more than 140,000 machines reporting operational and product health data worldwide, we believe that properly mined, this database will help us build superior products and strategically position product support assets, be it engineers, technicians, tools or spare parts.

And for us, it's attention to the details that often make the difference between good and poor customer satisfaction. For instance, filters need to last the whole service interval. In the past, engineers performed laboratory and field testing prior to new product release. Now with telematics, the engineers can follow up the pre-release testing with actual field data. To illustrate, see the 12-month chart below of mean time between air-filter clogging for the entire KOMTRAX equipped North American fleet. With the minimum MTBF greater than 6,000 hours, engineers can be confident that air-filter capacities are sufficient.

We've asked dozens of equipment managers, "What do you do to control your machine-related costs?" The majority responded by saying we focus on maintenance to eliminate expenses and downtime from unplanned failures. But the same group when asked, "What are your biggest operating costs?" respond by saying, "fuel and depreciation."

From these informal surveys, we concluded that equipment managers focused on costs related to maintenance and repair because they believed them to be more controllable than those expenses related to fuel and depreciation.

But times changed: fuel prices went up, the economy slowed, local governments started legislating anti-idle regulations, and OEM telematics provided managers a way to measure idle time. (Also, many were surprised by fleet idle times approaching 50 percent.)

The combination of these events led managers to understand the key to controlling fuel and depreciation costs was reducing idle time. Armed with new beliefs about cost control, managers started taking action by initiating idle-reduction programs at their companies by elevating the issue through educational events and regular reporting of progress against goals. To amp up the motivation, some programs included competition between peer groups and recognition. The effective programs are enjoying big rewards: for every idle hour eliminated a gallon of fuel is saved, the next scheduled maintenance is postponed an hour, and the machine is one hour newer than it would have been.

From studying the KOMTRAX fleet, we believe the idle-reduction management is working as average idle times between May of 2007 and May of 2009 are reduced by 17 percent.

Clearly this is a call to your action. If you aren't already one, become a user of your OEM provided telematics. Let us know what's helpful and what could be more helpful. Putting information at your fingertips is a concept that is hard to argue with, but if you're not reaching out to use it, then having it at your fingertips isn't close enough.

*— Ken Calvert is director, machine support systems, Komatsu America*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