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HELP DEVELOP  
GOOD HABITS  
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**SMART BUSINESS:**

**TIPS TO AVOID  
BURNING OUT  
YOUR CREW  
16**

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Plumbing Technician  
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# Contents

AUGUST 2020

Think outside the bucket

**dig**DIFFERENT

FOCUS: Horizontal Directional Drilling and Boring



## COVER STORY

### 10 **PROFILE: PIPE BURSTING** **Hero University**

Fostering employee success paves the way for explosive business growth for California company.  
By Jared Raney

#### ON THE COVER:

Rooter Hero Plumbing technician Gilbert Vella attaches a bursting head to the end of a new pipe at the entry pit of a job near Mission Hills, California. The company, with 375 employees, offers services such as pipe bursting, residential drain cleaning and plumbing throughout California and Arizona. (Photography by Cory Sherwood)

## FEATURES

### 22 **COMPANY DIRECTORY:** **Horizontal Directional Drilling and Boring**

28 **PRODUCT FOCUS:**  
**Horizontal Directional Drilling and Boring**  
By Craig Mandli

32 **SUCCESS STORIES:**  
**Horizontal Directional Drilling and Boring**  
By Craig Mandli

## COLUMNS

8 **BELOW THE SURFACE:**  
**An Industry Resource**  
From online training materials to sharing your job stories, we're here to help everyone in the industry.  
By Cory Dellenbach, Editor

16 **SMART BUSINESS:**  
**Avoiding Employee Burnout**  
Keeping your team happy and productive at the height of the busy season requires keen observation and effective communication from the boss.  
By Kate Zabriskie

18 **SHOP TALK:**  
**Not Overlooking Overtime**  
One small violation can quickly snowball into a litigation nightmare if you're not following overtime pay guidelines.  
By Joan Koehne

### 20 **SAFETY FIRST:** **Safety in Sync**

A proactive approach with in-house safety audits is good for employees and business.

By Giles Lambertson

## IN EVERY ISSUE

9 **@digdifferent.com**  
Visit daily for new and exclusive content.

26 **The Latest: Products**  
This Issue's Feature: Electric backhoe offers comparable power  
By Craig Mandli

33 **Happenings**

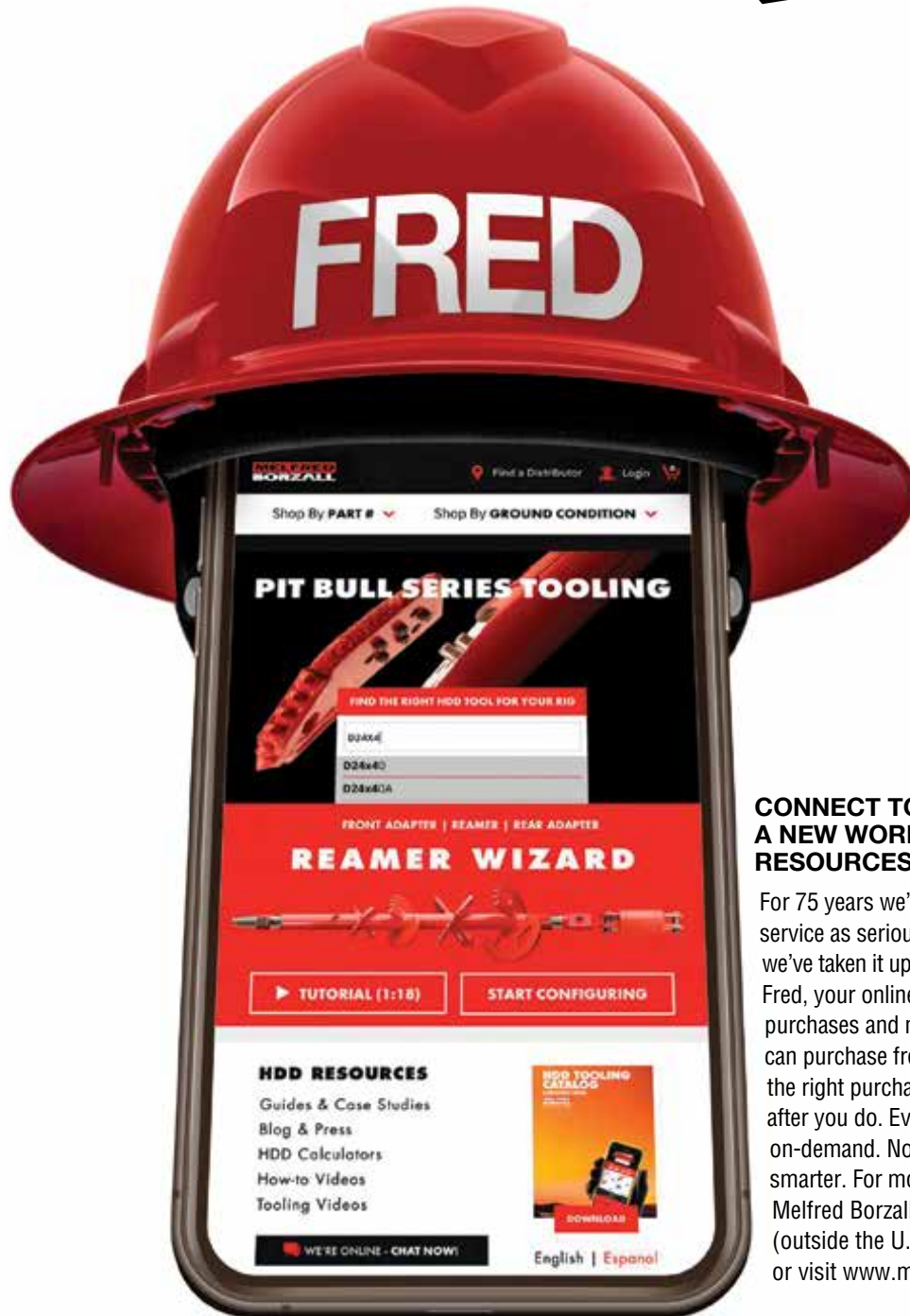
34 **The Latest: News**

**NEXT ISSUE: September/October 2020**

FOCUS: Excavation, Trenching, Education and Safety

- Profile: Southern Directional (Alabaster, Alabama)
- Smart Business: Publicity brings benefits for your company
- Safety First: A higher level of training

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## Advertiser Index August 2020

Bald Eagle Pellet Co. ....	<b>6</b>	Kondex Corporation .....	<b>15</b>
Boss Industries, LLC .....	<b>19</b>	Lee Supply Co., Inc. ....	<b>16-17</b>
 FAT		Melfred Borzall, Inc. ....	<b>5</b>
Cat Pumps .....	<b>2</b>	Milwaukee Rubber Products, Inc. ....	<b>27</b>
 CUSTOM TRUCK ONE SOURCE		Radius HDD .....	<b>7</b>
Custom Truck One Source .....	<b>31</b>	 RIVAL HYDROVAC	
EMCO, Inc. ....	<b>15</b>	Rival Hydrovac Inc. ....	<b>15</b>
 Evolution Drilling Tools		VANAIR .....	<b>21</b>
Evolution Drilling Tools	<b>back cover</b>	Vermeer Corporation .....	<b>3</b>
GapVax, Inc. ....	<b>35</b>	<b>Classifieds</b> .....	<b>33</b>
 Hi-Vac		<b>Marketplace</b> .....	<b>34</b>
Hi-Vac Corporation .....	<b>27</b>		

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## An Industry Resource

### FROM ONLINE TRAINING MATERIALS TO SHARING YOUR JOB STORIES, WE'RE HERE TO HELP EVERYONE IN THE INDUSTRY

BY CORY DELLENBACH, EDITOR

**Y**ou may have already noticed that we've added a new feature to the *Dig Different* website. During the time we're dealing with COVID-19, we know crew training can be difficult, so we've added a training tab to the top of our website to help you.

We want DigDifferent.com to be your one-stop source for all things related to vacuum excavation, trenching, directional drilling and tunneling, along with anything else related to excavation without the use of a bucket. We also want it to be incredibly easy for you to find what you're looking for.

COLE Publishing and *Dig Different* will be providing a steady stream of training videos with easy access. Pre-recorded training videos will be available for viewing whenever and wherever, allowing you to listen and view at your own pace when it best fits your schedule.

As an example, under the training page's business tab, you'll see videos related to how COVID-19 could affect your insurance and find more information on patent, trademark and copyright law.

New topics will be added as quickly as we can record and upload them, adding to the amount of information and knowledge available through COLE Publishing to help you do tough jobs right.

#### GETTING JOBS DONE

Each month in this magazine, we profile contractors who are getting the job done every day, and that isn't any different in this issue. This month we highlight Rooter Hero Plumbing in California.

The company, which handles pipe bursting jobs, has a history of fostering employee success with specific training and providing the needed tools to get those jobs done.

When a contractor provides its employees with the tools needed and the training required, there should be no reason it fails. If your business is struggling, it's time to take a step back and find out why. Evaluated everything from the ground up to see where the fix needs to happen.

#### BEING A RESOURCE

We strive to be a resource for you, but we need your help with that too. We want to highlight jobs you've taken on that are unique or interesting in some fashion. Did you have to string out a vacuum hose 500 feet or need to park the vacuum excavator 80 feet over the job site?

It's jobs like these that you all love to hear about. Why not share them with other contractors? Not only do you get to boast a little bit about your company and crew, but you could also be giving some ideas to another contractor across the country facing the same challenges.

Vacuum excavation is just one example, I'd love to hear stories about directional drilling, pipe bursting, trenching, tunneling and more!

#### IN YOUR COURT

With that, the ball is in your court. Share some of those stories with us. I'd also like to hear what training challenges your company faces. Call me at 715-350-8436 or email [editor@digdifferent.com](mailto:editor@digdifferent.com).

Enjoy this issue! ▼

NOT ONLY DO YOU GET TO **BOAST A LITTLE BIT ABOUT YOUR COMPANY AND CREW**, BUT YOU COULD ALSO BE GIVING SOME IDEAS TO ANOTHER CONTRACTOR ACROSS THE COUNTRY FACING THE SAME CHALLENGES.



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## OVERHEARD ONLINE

**“THE MORE COMMUNICATION, THE BETTER [OR] FAMILY MEMBERS WILL HAVE EXPECTATIONS THAT MAY BE UNREALISTIC ... WHEN EVERYONE KNOWS THE PLAN, SOME MAY NOT BE HAPPY, BUT NO ONE IS SURPRISED.”**

*7 Steps for Creating a Smart Succession Plan*  
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## TOOL CARE

### Maintenance Tips for Locating Equipment

With some machines, a consistent regimen of preventive maintenance is critical. Electromagnetic locating tools may not require the level of upkeep other pieces of equipment need, but there are still several good practices, covered in this online exclusive, that you should always keep in mind to keep those locating tools in top shape.

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## SAFETY REMINDER

### Don't Become a Trench Collapse Statistic

We're still in the heart of the summer construction season, so it's worth once again emphasizing the importance of trench safety. This piece written by George Kennedy, vice president of safety for the National Utility Contractors Association, was published during the organization's Trench Safety Month in June and looks at the dangerous ramifications of overlooking safe excavation protocols.

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## WORK CULTURE

### Keep Employee Engagement High

Employee engagement is always one of the biggest issues facing employers. Studies consistently show that disengaged workers contribute heavily to lost productivity, low morale, high absenteeism and costly turnover. This online exclusive examines some of the many solutions out there that can keep the employer/employee connection strong.

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PIPE BURSTING

*Profile*



# HERO UNIVERSITY

**FOSTERING EMPLOYEE SUCCESS PAVES THE WAY FOR  
EXPLOSIVE BUSINESS GROWTH FOR CALIFORNIA COMPANY**

STORY: JARED RANEY PHOTOS: CORY SHERWOOD



Rooter Hero Plumbing technician Marcus Allen guides pipe as it moves into the entry pit of a pipe bursting job (TRIC Tools).

**J**ohn Akhoian is a hero to his employees. What else would you call a business owner who has made a commitment to enrich his employees and provide them with the tools to excel in and out of the workplace?

Akhoian is wildly ambitious, but he's not interested in politics or becoming a corporate tycoon. His goal is not to increase his personal wealth on the backs of his employees, but instead to aid in their success.

His fittingly named drain cleaning and plumbing company, Rooter Hero Plumbing, is based in California and has expanded to 12 locations in seven years. He hopes to reach 100 offices in the next decade. Another initiative to encourage his employees is his "99 Millionaires" concept, the idea being to create 99 millionaires under the company's umbrella.

It's not all about making the big bucks, though — the company also offers financial literacy training for any employee.

"I want to help our people as much as I can, educate our people so when they do come to work, they can come to work with peace of mind and give our customers the service they deserve. We want to help the people who are working with and in our companies to create wealth for their families," Akhoian says. "If we can help them solve their personal problems, then we feel our customers will get a better service. And plus, it's the right thing to do."

#### **BUILDING THE COMPANY**

As with any hero's journey, it was humble beginnings for Rooter Hero, which opened its doors in 2011 with a single truck servicing the Orange County, California, area. Today, the company stretches as far as Phoenix, with 250 trucks.

Akhoian himself has a pretty noble origin story, starting out as a plumbing apprentice at the age of 17 to support his family after the death of his father.

"My dad was the breadwinner of the family, and I quickly knew that I didn't have time to go to school. I had

to get out and be productive right away," he says. A family friend was a plumber, and he went to work for him as an apprentice. "I quickly learned the trade, and I took a liking to it — within about a year, I was out doing all of the plumbing myself; he wouldn't even go out in the field anymore."

Within a year he was earning enough to start thinking about growth.

"I had a conversation with him because I really wanted to grow and he didn't want to grow his company. So he said, 'John, your options are: go work for a big company, stay and work here, or go start your own thing,'" Akhoian says. "At that time, I decided I'm going to start my own thing."

He started his entrepreneurial career with a small commercial plumbing company but quickly saw that investing in a franchise was the fastest way to grow and learn the ins and outs of the industry.

"That's kind of how it all started, when I was about 19 years old," he says. "Over the next two to four years, I built

**"I UNDERSTOOD THE MODEL OF HAVING A STRONG MANAGEMENT TEAM IN PLACE, HAVING A GOOD TRAINING PROGRAM IN PLACE, AND HAVING A REALLY GOOD OPERATING SYSTEM."**

John Akhoian

### **Rooter Hero Plumbing** Mission Hills, California

**OWNER:** John Akhoian

**FOUNDED:** 2011

**NUMBER OF EMPLOYEES:** 375

**SERVICES:** Residential drain cleaning, repair (relining and pipe bursting), plumbing

**SERVICE AREA:** California; Phoenix

**WEBSITE:** [www.rooterhero.com](http://www.rooterhero.com)



Gilbert Vella uses a Connectra pipe fusion machine (GF Piping Systems) to fuse HDPE pipe during a pipe bursting job.

John Akhoian has expanded his drain cleaning and plumbing company to 12 locations in just seven years, with no plans to slow down. He eventually wants to establish 100 locations while providing his employees with not just a career, but a financial education and a place for personal growth.



**“WHAT’S HELPED US GROW SO FAST IS OUR ABILITY TO TRAIN PEOPLE. ... WE EVENTUALLY ENDED UP CREATING OUR OWN PLUMBERS.”**

John Akhoian

a really good company. I was doing mainly apartment building repipes, and I was doing large commercial jobs. I had a few vans and was making really good money. One day I saved enough money and I wanted to buy a franchise.”

He rapidly expanded, in the end owning pretty much all the available franchises in the area.

“I had multiple locations, so I understood the model of operating in multiple markets,” Akhoian says. “I understood the model of having a strong management team in place, having a good training program in place, and having a really good operating system.”

At a certain point, he decided to leave the franchise because he felt he had reached his peak with that avenue.

“I wanted to continue growing, and the franchise had already sold all of its locations. I really didn’t have much more opportunity; I didn’t feel like if I renewed my agreement another 10 years that we would have the opportunity to grow for the next 10 years,” Akhoian says. “I felt like we were eventually going to hit a plateau, which we did. So we sold all of our franchises.”

That experience has benefitted him as he now seeks to build his own company. Though it isn’t technically a franchise, it is organized much like one, with independent management structures at each location, though they are all run through the company’s corporate office in Mission Hills, California.

Most important to stimulating this type of expansive growth is getting the right people and putting them in the right position to succeed. That’s especially true of the location managers.

“They’re built of different kinds of people. Some of them used to be plumbers and ended up becoming a location manager — they understand how to operate. Some of them used to be salespeople. Some of them used to work for another company as a manager and they just couldn’t grow any further. So they’re all different,” Akhoian says. “I would say half of them are internal promotions, and the other half come from outside.”

Proper incentives are also important: Rooter Hero again mimics the franchise model by giving high-level employees in the company an opportunity to become part owners.

“We give people who are running our locations a chance to own a piece of that location, and the program works through increasing revenue, increasing profits,” Akhoian says. “As it increases, they earn a piece of that location, and it becomes almost like phantom stock that will turn into real stock over time.”

## CONTINUED DEVELOPMENT

In addition to personal improvement, Akhoian is a firm believer in ongoing professional development.

Recruits undergo a rigorous training program that was developed internally, and every manager in the company goes through a management training program — they even have an emerging leaders program to identify promising talent and promote them within the organization.

“What’s helped us grow so fast is our ability to train people. It’s really difficult to find experienced plumbers anymore, so we hit a wall. We eventually ended up creating our own plumbers,” Akhoian says. “In the beginning, we were just taking anybody who was mechanically inclined, young, motivated and who wanted to get into the trades. Over time, we started losing some people because they realized they didn’t really want to do it.”

In its early days, the training program had limited hands-on elements, and when recruits started having to crawl under buildings or get their hands dirty, some had second thoughts.

“We started to tweak and change our program, and now 80% of the people who are going through our Hero University program have signed on as apprentices. They’ve done ride-alongs, and they’ve done the labor,” Akhoian says. “We started to see much less turnover, because now they’re more committed. They’ve already tried it, they’ve done the work and they know what to expect.

“In about nine to 12 weeks, we’re able to certify and put them out in the field as drain cleaning technicians,” he says. “They do light plumbing repairs and all of that stuff as well. While they’re doing it, we continue to train them

## Creating millionaires

It should be no surprise that John Akhoian has done very well for himself, building a small drain cleaning and plumbing empire from scratch after selling a powerhouse franchising arm.

And with his determination to empower his employees as they grow through the company, it’s also not surprising to hear that there are a few financial success stories under the auspices of Rooter Hero Plumbing.

“Within the last seven or eight years of our company growing, a handful of people have become millionaires in the process — either earning more money, or spending less money and investing more, and doing other things,” Akhoian says.

But that’s not enough for him. He wants to create 99 millionaires throughout the company’s infrastructure as he seeks to build up to 100 locations over the next decade.

“We want to make 10 times the impact that we’ve made,” he says. “So we’re offering profit sharing. Some of our people running our locations also own parts of the location, and they’re creating wealth through the company growing.”

It isn’t just a recruiting pitch, either. Akhoian actually wrote a book about the passion project, titled *Creating 99 Millionaires*, which is available for free as an e-book on the Rooter Hero website.

“We’re making a really big impact,” he says. “And it’s my personal goal to create 99 millionaires.”

The Rooter Hero Plumbing crew includes (from left) technicians Marcus Allen, Gilbert Vella, Rodney Johnson, Ray Guerrero and Pablo Miro.



on how to become even better at what they do, because they end up coming across a lot of different plumbing problems when they're on the job."

Rooter Hero is a residential service and repair company, with about 70% of its business in drain cleaning and 30% in plumbing. To support those services, Hero University is paid training with two days of fieldwork and three days of classroom or mock-up training. The company has a mobile training unit with all of the fixtures and equipment that technicians would use on the job.

"They learn code, they learn theory and then they learn how to actually take it apart and put it back together. They learn how to operate sewer machines and how to fix sewer machines when they're in the field," Akhoian says.

Depending on the location, Rooter Hero techs use Gorlitz Sewer & Drain and Spartan Tool drain cleaning machines; jetters from US Jetting, Harben, HotJet USA and Jetters Northwest; RIDGID inspection equipment; Perma-Liner Industries systems for relining; and MaxLiner USA epoxy.

The company also takes on pipe bursting jobs and uses a TRIC Tools pipe bursting system for that work.

The five keys of service is another internally developed program to train technicians on the customer service side of their job. The keys are diagnose, ask, listen, educate and W.A.W. (way above wonderful).

Salespeople are also taught to leave six options with every customer to solve his or her problem. Akhoian believes in giving customers the information to make an educated decision, not upselling them on some-



**"IF WE CAN TRAIN AND BECOME BETTER AT WHAT WE DO, THEN OUR CUSTOMERS WILL BE BETTER TAKEN CARE OF."**

John Akhoian

thing they don't need. Part of the training includes a role-playing element where technicians and salespeople practice the method in a live environment.

Management training is a two-year program, and they spend one whole day per month on leadership education.

"We feel like when we get better, everything around us gets better. If we can train and become better at what we do, then our customers will be better taken care of," Akhoian says. "Everything is going back into training and reinvesting in the company — for growth, for learning, for marketing, for branding."

### CATALYST FOR SUCCESS

Another training offered by the company is not directly related to drain cleaning or plumbing, but Akhoian still believes it has benefits for the company — personal finance education.

"We teach our people how to read financial statements — all of that stuff. And in our company, we do open-book management, which means that every single employee knows exactly what our numbers are; so every single number is gone through with all of our employees," Akhoian says. "We do profit sharing, so they know what our company's profit margin is."

Rooter Hero isn't the only company out there that does companywide profit sharing, but they take it a step further by not only giving employees a fair share, but also by ensuring they have the tools they need to benefit from the boost in a meaningful way.

It feeds into his philosophy that happy employees equal happy customers, and a stronger business.

"You have to invest back into the business. We treat the business like a person and never take advantage of the business," he says. "Most people will use the business to fuel their lifestyle. We take the business, we live within our means and then we put money right back into our business. We put it right back into our people; we put it right back into investing in the trade."

There's no doubt that the industry has been good to Akhoian, and his hope is simply to spread that success as far and wide as he can.

"I've been doing this for 30 years. I've been a plumber by trade, and I just really, really love the plumbing industry," Akhoian says. "I feel like this has been my calling, and I get to show up to work every day and do what God put me on Earth to do." ▼

Pablo Miro (left) and Gilbert Vella monitor progress in the receiving pit as new pipe is pulled into place.

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## Avoiding Employee Burnout

**KEEPING YOUR TEAM HAPPY AND PRODUCTIVE AT THE HEIGHT OF THE BUSY SEASON REQUIRES KEEN OBSERVATION AND EFFECTIVE COMMUNICATION FROM THE BOSS**

BY KATE ZABRISKIE

**T**he team is exhausted. They're burned out, and I am too. I don't know if we can recover. We've been working at 150% for a few months straight — at least most of us have.

More change? Really? We've been through three major transitions in as many months. Everyone is really on edge. I am pretty sure Joe is going to quit.

For contractors, it's the time of year when the demands of the job are ramped up to maximum output. You've put in a few months of sunup to sundown construction site services and weekend emergency calls behind you. But there are a few more months of long days and long weeks ahead.

Even in the best of times, creating and maintaining a high-functioning team is work. If you follow these steps, you can provide some relief and keep members of your crew pulling in the same direction all summer long.

### STEP ONE

The first step is accepting a list of truths:

**Truth One:** Employees have different levels of buy-in, a range of work goals and varying home and work demands.



Kate Zabriskie

**Truth Two:** Not everyone experiences burnout in the same way, and work isn't always distributed evenly in most companies. Some people probably are more burned out than others.

**Truth Three:** Great teamwork will compensate for a lack of resources in the short term. However, teams that are stretched too thin for too long begin to show signs of wear and tear.

**Truth Four:** If the leader isn't a believer in what the team needs to accomplish or isn't working as hard as he or she can to bring the team over the finish line each day, the crew will know it and react in a range of ways — most of which are neutral at best.

**Truth Five:** Transparency matters. People don't like being left in the dark or, worse still, lied to.

**Truth Six:** Too many changes at once usually don't go over well unless there's a logical flow to them, a sense of fairness about what's being changed and the absence of unnecessary chaos or drama.

**Truth Seven:** Elephants in a room stay there if they're allowed to do so. If a team is not prepared to operate with candor and address unspoken issues,



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there's only so much that can be done to keep everyone together.

**Truth Eight:** Team members' perceptions of the team's condition are their truth. You may have plenty of data to argue to the contrary, but until people are ready to listen and believe what you show them, what they currently think is what is.

### STEP TWO

Once you've got a firm understanding of the basic truths, the next step is taking a long and hard look at what's working, what isn't and why. Does everyone understand and buy into the team's mission? Is work distributed fairly? Are some people doing more than they should have to do, while others are doing less than they should? Are people resentful of each other? Is there drama, and do you know the source? Is the team's burnout a recent phenomenon or has its decay been long in the making? Is the burnout caused by internal factors, external factors or a combination of both? Have people been misled or lied to in the past by a boss?

Those questions are just the tip of the iceberg and some ideas to get started. In fixing burnout, asking the right questions is as important as, if not more so than, taking action. A good list of questions will help you reduce the likelihood that you are treating symptoms or curing the wrong disease altogether.

### STEP THREE

When you think you have a good grasp of the current situation and have verified your findings with others, it's time to start thinking about what could be. A fast way to imagine a different state is to work through some more questions.

- How do we want to feel about our work?
- What gets us excited about our work or what do we enjoy?
- What changes do we need to make to our work product, our work processes or our people interactions?
- What needs to stay the same?
- What level of performance do we need from each team member?
- What are we going to do if those levels aren't met?

- What additional resources do we need?
- What can we do to encourage transparency and communication?
- How will we celebrate improvements?

### STEP FOUR

With a clear view of the present and a possible future, the next step is prioritizing. In most cases, burned-out teams don't burn out overnight. Often the process is long and marked by a series of declines, bad luck and unfortunate circumstances. Consequently, the recovery process is often long. In fact, the team may not realize some of the elements identified in step three for a long time. The trick is to keep the truths discussed in step one in mind as you prioritize a plan of action to get from the reality you uncovered in step two to the future you envisioned in step three.

### STEP FIVE

The final step in the recovery planning process is creating a deliberate communication plan. Recognize that you need to overexplain and repeatedly share information. Once is not enough. Also, your team will have some good days and bad. What's important is making progress in the right direction. After a series of successes, everyone should be feeling a little less burned out and a lot more excited about the work at hand.

### RELIEF ON THE WAY

With these five steps well in hand, you're positioned to provide some immediate triage to your team members who are battling burnout. Burnout can be pervasive throughout a company, so get your first-aid kit out as soon as you pick up on the problem, and mitigate the issue before it negatively impacts your operation.

### ABOUT THE AUTHOR

*Kate Zabriskie is president of Business Training Works Inc., a Maryland-based talent development firm. Reach her at [www.businesstrainingworks.com](http://www.businesstrainingworks.com).* ▼

# Not Overlooking Overtime

## ONE SMALL VIOLATION CAN QUICKLY SNOWBALL INTO A LITIGATION NIGHTMARE IF YOU'RE NOT FOLLOWING OVERTIME PAY GUIDELINES

BY JOAN KOEHNE

**E**mployers may not like to pay overtime, but not abiding by state and federal rules can land them in hot water. It takes just one or two disgruntled employees who realize they have not been paid properly to file a claim in court. An overtime violation that starts small can quickly grow into an expensive legal nightmare.

For example, a company in New York will pay more than \$7 million to almost 1,300 technicians to settle a suit over unpaid wages and overtime. Employees argued they worked through lunch hours, although that time was deducted from their pay. They also contended they were only paid their regular rate of pay instead of the overtime rate due to them. Additionally, they worked after their shifts ended without being paid.

Attorney Jodi Arndt Labs of the Law Firm of Conway, Olejniczak & Jerry, says employers need to be aware of the consequences of not following overtime rules.

"A small amount due and owed to each employee can add up significantly in a class action suit, especially when one can go back two to three years to collect unpaid wages. Then you add in the penalty that allows for the wages to be doubled, and attorneys' fees," she says.

Once a suit has been filed, state and federal investigators often start looking for other violations, says Michelle Higgins, associate editor at J. J. Keller & Associates. These violations may have nothing to do with the original infraction. Investigators may check a company's labor law posters, child labor practices, meal/rest breaks for employees, etc.

"Once the wage and hour investigators start pulling a figurative piece of yarn, everything can unravel," Higgins says. Besides paying back pay, other consequences may include mandated training for supervisors and years of agency follow-up. There's also the negative publicity to consider.

### KNOW THE LAWS

Higgins encourages companies to do self-audits, review policies and employee handbooks, and watch for (and avoid) infractions experienced by other companies in their industry.

"Be as compliant as possible," Higgins says.

A good starting point is to know the three fundamental rules of overtime:

- Employers must pay overtime to employees who work more than 40 hours in a workweek.

- Employers must pay an overtime rate of no less than time and a half of an employee's regular rate of pay.
- Employers do not need to pay overtime to exempt employees (more about that later).



**"WHAT HAPPENS WHEN EMPLOYERS DON'T CLASSIFY EMPLOYEES CORRECTLY? THAT'S WHEN PROBLEMS START."**

Michelle Higgins

Under federal law, an employer has a fair amount of freedom in deciding when employees (age 16 and older) will work. There's no limit to the number of hours an employee works in a day or week or the number of days in a row. Working overtime can be a condition of employment, and employees can be fired for refusing to work overtime. In addition, employers aren't required to give advance notice of overtime work and can call in employees on scheduled days off.

While employers have the freedom to require longer hours, they are smart to consider the impact of overtime hours on employee morale. Will the extra workload or last-minute requests cause employees to quit, bad-mouth the company or be less productive or safety-focused while on the job? The flip side is also true, when employees welcome the opportunity to work overtime.

"Often, employees are happy to earn extra money with overtime pay," Higgins says. They count on it — or may even fight for the opportunity to work extra.

For less-enthused employees, incentives can help. Even small treats like coffee and donuts or pizza can contribute to management-employee

camaraderie, strengthen morale and contribute to a positive company culture. Appreciation, empathy and good communication are also important.

If possible, employers should provide a time frame when overtime will be required. Employees who aren't happy with their hours should talk with their supervisors, Higgins says.

"Their leader would really need to step in and say, 'What are you unhappy about, and what can we do to figure out a solution?'"

### EXEMPT EMPLOYEES

While all employees can be required to work overtime, not every employee is eligible for overtime compensation. It all depends on whether an employee is classified as exempt or nonexempt. Employers do not need to compensate exempt employees for overtime hours.

Exempt employees are certain individuals with executive, management or supervisory responsibilities or with administrative duties that require inde-

pendent decision-making. Exempt employees also include outside sales and computer employees.

“Some examples of employees who may be exempt from overtime would be a CEO, human resource director or vice president of sales,” Higgins says.

One of the biggest misconceptions about overtime is that companies can simply classify salaried employees as exempt when they’re not.

“What happens when employers don’t classify employees correctly? That’s when problems start,” Higgins says.

Arndt Labs says a well-written job description helps to classify employees accurately.

“I advise clients that they need to have a good job description that clearly outlines what the employee’s job duties and responsibilities are and that such job descriptions include the criteria needed to qualify as an exempt employee.”

Additionally, employers should talk with employees about what they do day to day to further categorize them correctly.

“We recommend employers have a policy that defines exempt versus nonexempt and clearly spells out the workweek,” Arndt Labs says. The policy also should set the compensation amount for overtime and state that vacation and holiday hours don’t count toward overtime compensation.

“Employers may think they can avoid overtime obligations (for salaried workers),” Arndt Labs says. “If the employee does not qualify as an exempt employee, then the employer will still need to pay overtime for those hours worked above and beyond 40 hours in a workweek.”

“Overtime pay due to an employee is based on the employee’s regular rate of pay and the number of hours worked in a workweek regardless of whether the employee is paid on a piece rate, day rate, commission or salary basis,” Higgins says.

### CALCULATING OVERTIME HOURS

Aside from compensating employees properly for overtime, employers must also track and report a non-exempt employee’s regular and overtime hours separately.

The Fair Labor Standards Act does not require a particular form for records, but it does require certain identifying information about the employee and data about the hours worked and wages earned. Companies can use various human resource systems to maintain these records. The U.S. Department of Labor wage fact sheet provides more information about record-keeping: [www.dol.gov/sites/dolgov/files/WHD/legacy/files/whdfs21.pdf](http://www.dol.gov/sites/dolgov/files/WHD/legacy/files/whdfs21.pdf).

At the federal level, the U.S. Department of Labor administers the overtime policies as outlined in the FLSA. These are the minimum requirements; some states and municipalities have their own policies. Employers need to comply with all of these, applying the requirements that benefit the employee most, which can be tricky for companies with locations in multiple states. Higgins recommends starting with an overall employee policy and including addendums for what’s required in various municipalities and states where the company has workers.

When calculating overtime, employers need to factor in all of the hours worked, including travel time.

“Generally, all hours traveling from the company shop location to a customer site and all travel throughout the regular day are compensable as hours worked,” Arndt Labs says. Employers may establish various rates

of pay for employees, like travel time versus an hourly wage. On-call time, nondiscretionary bonuses, shift premiums and other work arrangements also need to be considered when determining overtime pay.

Overtime laws can be confusing, complicated and costly if they’re violated. Arndt Labs advises clients to call her before problems arise.

“If a business owner is in doubt about what their obligations are to their employees, it is best to call an employment or labor attorney, as it will typically be more cost-effective than facing a wage audit or otherwise litigating a wage and hour claim,” she says.

Business consultants, human resource professionals/systems or online resources can also be helpful when it comes to knowing and abiding by the rules of overtime.

“It is better to be proactive than reactive.” ▼

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# Safety in Sync

## A PROACTIVE APPROACH WITH IN-HOUSE SAFETY AUDITS IS GOOD FOR EMPLOYEES AND BUSINESS

BY GILES LAMBERTSON

**E**d Koch was the amiable mayor of New York City for 12 years. During his tenure, he was known for greeting his constituents on the street and asking them, “How’m I doing?”

Companies should develop a similar habit and openly solicit feedback from employees about whether safety programs are actually keeping them safe.

One mechanism for doing this is a safety audit. In an audit, a qualified person systematically examines a company’s declared safety rules and regulations along with its day-to-day practices and determines if the two are in sync.

For example, if employees are required to wear hard hats in certain areas of a plant or work site but the examiner discovers the hats generally are not worn, the discrepancy between theory and practice is red-flagged. Red flags signal changes need to be made.

### START INSIDE

Safety audits occur in three forms: internal, external and OSHA (sometimes jokingly referred to as eternal). The OSHA audit isn’t necessarily the most important. The earliest identification and elimination of a safety hazard is always the key one. But OSHA is where the buck stops. Failure to be compliant with OSHA’s preventive safety regulations leads to a citation or fine.

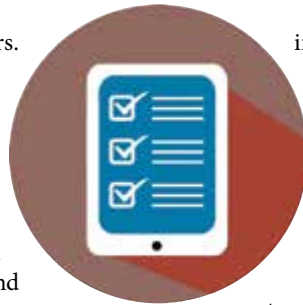
OSHA principally enforces regulations by conducting workplace audits or inspections. The inspectors look for violations of safe practices or the absence of safety equipment. The inspections can be conducted without giving a company prior notice, which seems furtive but keeps less ethical company leaders from playing games with employee safety.

Ethical leadership, on the other hand, is not into games. “I like to tell people that a safety management plan should be part of your overall company management system. If management is committed to doing the right thing, employees are going to do things the right way. It becomes a common culture,” says Kyle Irwin, founder of Irwin’s Safety. The Calgary, Alberta, firm teaches safety to company executives in western Canada and occasionally in the U.S.

While “doing the right thing” works the same on either side of the border, Irwin says the consequences of ignoring workplace safety often are more severe in the states. “We’re more regulated in Canada. We have more government agencies looking into it. The day-to-day standards are higher. However, the risk of litigation is much higher in the U.S. If you are a company in the U.S. and make some bad decision in respect to safety, you’re more likely to be litigated by the people affected by that decision.”

Neither of these two scenarios — more rigorous day-to-day regulation or greater legal risk — is welcomed by company owners. The happy alternative is for a company to self-regulate at a responsible level and thereby create a culture of safety as a first line of defense against unsafe behavior and work conditions. Internal audits are the way to develop that culture.

Usually conducted by a company’s safety manager, ongoing internal audits sometimes are informal, undertaken on the spur of the moment while pass-



ing through a workplace or visiting a job site. Or they are formal, with an inspection occurring on a day purposely set aside for it with a checklist as the inspection tool.

The list can be as long and detailed as your company wishes. Small companies that are just developing a health and safety program sometimes get by with a one-page checklist with a comments section at the bottom. The completed listing is filed for follow-up and future reference.

More rigorous internal inspections are longer and more nuanced. An informal short-form inspection might ask, “Is there a standby employee positioned outside the confined space to provide emergency assistance?” Whereas a more thorough inspection checklist might ask an additional question: “Is the standby employee trained and equipped to render assistance in case of an emergency?”

These internal audits sometimes catch dangerous situations and correct them. However, the hope is that they will discover few serious defects in safety and instead find areas where reasonably safe behavior can be made safer. The frequency of the internal audits and the fact that they are being conducted without coercion from outside entities makes them nonthreatening to a company and its employees. Therefore, they are less likely to cover up something unsafe.

### EFFECTIVE MANAGEMENT

Irwin notes that the attitude of the person doing an audit goes a long way in determining how effective it will be. “I really think the No. 1 requirement for being an effective safety manager is to know your workplace and understand the different roles in the company and the hazards of each role.”

**“THE ATTITUDE OF THE SAFETY MANAGER SHOULD NOT BE ‘I AM HERE AND I’M GOING TO CHANGE THINGS.’ IT SHOULD BE ‘I AM HERE AND WE’RE GOING TO LEARN THINGS TOGETHER.’”**

Kyle Irwin

He gives the example of an engineer leaving his office two or three times a year to walk around a work site. “You wouldn’t go up to him during his walk-around and talk to him about the need to wear a hard hat.” Such a “gotcha” move would be officious. Rather, a safety manager should prioritize his time to deal with bigger workplace hazards.

Irwin recommends that safety leaders engage with employees rather than confront them. To effectively communicate the need for safety, a safety manager must first have a relationship. Failure to connect with people means the chance of influencing them is slim, he says.

“The attitude of the safety manager should not be ‘I am here and I’m going to change things.’ It should be ‘I am here and we’re going to learn things together.’ It’s the difference between being a safety cop and a safety adviser. If you’re a cop, you ask, ‘Where is your hat?’ An adviser asks, ‘Is there a reason

you're not wearing your hat?' The attitude should be that the adviser is learning from the employees."

Seasoned employees might be expected to be most responsive to safety counsel, having been around long enough to witness the consequences of unsafe behavior. Unfortunately, longtime employees can be the least coachable. "With a lot of people in the older generation, when you say, 'Hey, we need to do this and this,' they become defensive. They feel like you're suggesting they weren't doing something right."

Once again, Irwin counsels engaging with the old hands so they understand their experience is respected. "You might say, 'We know what you're doing is working really well and you're not injuring yourself. But someone newer on the job might not be as capable and could get hurt. We'd like to try a more systematic approach to doing this.'"

A safety manager needs to be something of a diplomat, in other words. However, diplomacy won't always work. Irwin laughs about the time he confronted a longtime employee of a company working a railway project. "He was in a machine, and I walked up and said, 'You need to wear that safety belt because some government inspector is going to come along and see you not wearing it and throw you off the work site.' He looked at me, said, 'Back off!' and closed the door."

You can't win them all, even when you're president of a safety management company. The larger lesson, though, is that rules apply to everyone. Irwin adds that the most frequent violators of company workplace safety rules are not hidebound employees, but younger generation workers who seem disinclined to follow safety regimens created for their own good.

### INSURANCE TEAMWORK

Insurance companies can play a role in auditing a company's safety. At Koberlein Environmental in northeast Pennsylvania, insurance agents have become real partners in policing and encouraging safety. Company owner Chris Ravenscroft says a Penn National Insurance representative, Jerry Kozich, is particularly involved.

Kozich attends half the company's safety meetings. He also periodically performs impromptu external audits of work sites. "I get a call several times a year from Jerry who says he's in the area and would like to see a job. That's been very helpful. Some jobs he visits are being perfectly managed. Other jobs we need to do something a little different, things he's identified. We get on top of it immediately."

This working relationship between insurer and insured has persisted for 15 years. Ravenscroft believes it to be a valuable add-on feature of his insurance policy. "I've asked him if this kind of relationship is commonplace, and he says it isn't, mostly because businesses are uncomfortable working with an insurance company at that level. Some insurance companies simply don't offer the service. We feel it really adds value."

Ravenscroft is his own safety manager, though he obviously has other responsibilities. He also has various team managers who spontaneously walk around jobs, looking for safety issues. That commitment from the top down establishes a strong safety culture.

### SAFETY PAYS

Safety is its own reward, but other benefits flow to companies that do safety audits. Irwin notes that, in Canada, annual internal audits are required to docu-

ment compliance and an external audit is conducted every two years by a certifying agency. It leads to public certification as a safe place to work, which tends to attract employees and business partners. The financial reward for certification is shaving of insurance premiums, typically by 10% to 20%.

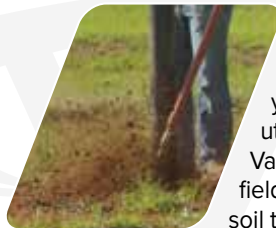
Ravenscroft says a couple other benefits accrue to his wastewater management services company besides a lower insurance premium. One is a discounted rate on workers' compensation when the Pennsylvania Department of Labor certifies the company's safety committee. And because Koberlein has a documented lower-than-standard rate of lost-time injuries per hours worked, business partners are pleased.

"Some of our larger clients — energy companies and utility customers — feel good about working with a company that's exceeding the safety standard. This is another way we receive the benefits of having a safe company." ▼



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The BF90.3 crusher bucket from MB Crusher is a mid-sized attachment for excavators with an operating weight of 46,300 pounds. Its compact size is perfect for job sites that are difficult to access by construction equipment. The BF90.3 crusher bucket has a production rate of 16 to 55 cubic yards per hour, depending on the desired output size. It crushes a variety of materials ranging from reinforced concrete, glass, asphalt, granite, limestone and demolition material, allowing companies to eliminate getting outside help to move or purchase new material by processing the waste on the job site. 855-622-7874; [www.mbamerica.com](http://www.mbamerica.com)

### 2. Gradall Industries Discovery Series hydraulic excavator models

Gradall Industries has introduced two new Discovery Series hydraulic excavator models, the D172 and D174, that are bigger, more muscular and more productive than the previous D152 and D154 models. The new models benefit from a 36% increase in horsepower, as well as greater torque to increase travel speed, hill-climbing capability and overall productivity. Both new models have Freightliner undercarriages. The D172 has two-



wheel drive, while the D174 is a four-wheel-drive machine. Both feature a Gradall upperstructure and a telescoping, full-tilting boom, able to rotate attachments 220 degrees. The low-profile boom design also allows the Discovery Series models to work productively under bridges and in tunnels. 330-339-2211; [www.gradall.com](http://www.gradall.com)

### 3. Cat Pumps hydroexcavating pumps

More than 50 years of high-pressure pump manufacturing experience has earned Cat Pumps a reputation of producing high-quality, long-lasting pumps. With its dedication to zero-defect manufacturing, ease of service and availability of stock, Cat Pumps designs and builds high-pressure pumps and systems to suit the demanding environments of the hydroexcavation industry. Popular models include Model 56 with 5.5 gpm at 3,500 psi; Model 56HS with 8 gpm at 3,000 psi; Model 660 with 10 gpm at 3,000 psi; Model 3560 with 20 gpm at 4,000 psi, or 25 gpm at 3,000 psi; and Model 3570 with 30 gpm at 3,000 psi.

763-780-5440; [www.catpumps.com](http://www.catpumps.com) ▼



## This Issue's Feature:

### Electric backhoe offers comparable power

BY CRAIG MANDLI

Utility and government contractors are increasingly incentivized to work with equipment that leverages alternative fuels and lowers emissions. However, creating heavy equipment that offers similar power and performance to gas- and diesel-powered machinery is a difficult challenge. **CASE Construction Equipment** recently introduced the **580 EV** (electric vehicle), the construction industry's first fully **electric backhoe loader** offering power and performance equivalent to other diesel-powered backhoes in the CASE product line.

"The 580 EV is perfectly suited for electrification as the varied use cycles — from heavy to light work — provide an excellent opportunity to convert wasted diesel engine hours into zero-consumption battery time, yet provide the operator with instantaneous torque response when needed," says Eric Zieser, director - global compact equipment product line, CASE. "At low idle, a diesel engine has reduced torque and requires time for the engine to ramp up to meet the load demands. Electric motors, on the other hand, have

instantaneous torque and peak torque available at every operating speed."

The 580 EV is powered by a 480-volt, 90-kWh lithium-ion battery pack that can be charged by any 220-volt/three-phase connection. While applications will vary, each charge will support most common eight-hour workdays. The battery separately powers the drivetrain and hydraulic motors, resulting in hydraulic breakout forces equal to diesel-powered machines and improved performance during simultaneous loader and drivetrain operation.

While the 580 EV is electrified, it retains many of the hallmark features that contractors expect from CASE backhoe loaders. ProControl allows for extremely precise boom movement and placement, while Comfort Steer significantly improves steering while working in tight quarters or in truck loading operations. The machine's cab is spacious with large windows that provide ideal sightlines to all sides of the machine. It also has enhanced joystick controls found in the most recent



580 EV from CASE Construction Equipment

generation of CASE N Series backhoes, as well as in-cab amenities such as premium seat options and Bluetooth radio.

"The 580 EV performs like a CASE backhoe — matching the power and performance expected from CASE with the advantages of an electrified machine," Zieser says. "Operators will experience the same digging, lifting and craning performance achieved in a diesel-powered machine in a quieter, emissions-free work area. That's the ultimate goal of our sustainability efforts — improve the world around us, make equipment more sustainable and do so while finding new ways to improve productivity and the experience of the people who use the equipment."

866-542-2736; [www.casece.com](http://www.casece.com)



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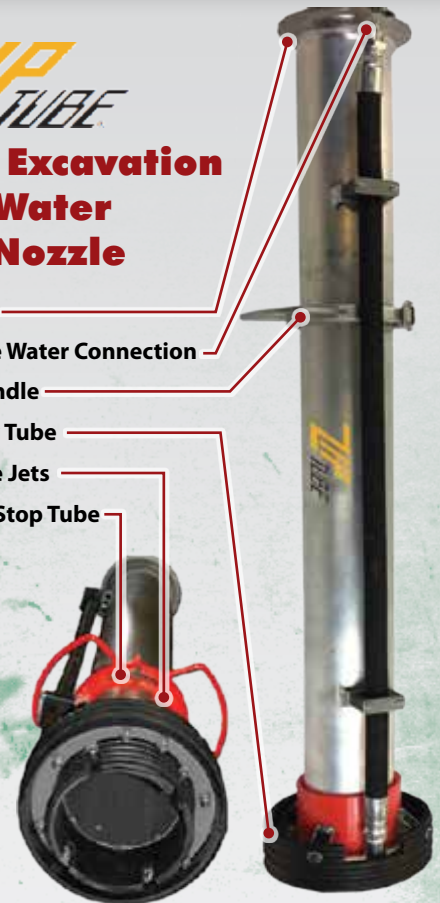
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BY CRAIG MANDLI

## Drill Bit

### Melfred Borzall Eagle Claw SD

The Eagle Claw SD bit from Melfred Borzall has integrated dome carbide blocks in the body to give greater wear protection and cutting power. Added conical carbides on the upper cutting face add more aggression to the bit's cutting power. The dome carbide blocks on the opposite side of the body also help transfer more power to the cutting surface as they push against the wall pack during rotation down the hole. The balanced cutting design ensures there is no vibration up the rod and to the rig so that wear protection extends to the rest of the rig. **800-558-7500; www.melfredborzall.com**



## Drilling Fluid

### Wyo-Ben UNI-DRILL

UNI-DRILL from Wyo-Ben is a fast-mixing, liquid polyanionic cellulose polymer designed for all types of water-based drilling fluids. It is nonfermenting and works well with even the most difficult water quality. While its primary function is fluid loss control, it offers suitable shale inhibition and lubricity, making it a true total mud conditioner. It has seen use in all types of drilling applications where changing soil conditions present challenges to drilling contractors. Its properties coupled with simple mixing instructions allow for the minimization or elimination of other additive inventories. Since it is highly concentrated, users can always do more with less, saving money in the long run. **800-548-7055; www.wyoben.com**



## Horizontal Directional Drilling

### Akkerman 1525B/D

The 1525B/D hydraulically driven high-pressure pump from Akkerman is used for effective pilot tube and other pipe jacking operations particularly on larger-diameter bores. The large, 525-gallon tank offers in-tank agitation for continuous mixing, independent agitation, or agitate and pump to maintain optimal mud viscosity. It displaces a Marsh Funnel viscosity as high as 50 seconds with pump flow up to 10 gpm at 2,500 psi. It is powered by a 20.7 hp diesel engine with an 8-gallon fuel tank. Like its 325-gallon counterparts, it is simple, safe and reliable. There are few moving parts, no belts and a shrouded agitator. The stepped platform makes it easy for operators to access and fill the tank. **800-533-0386; www.akkerman.com**



### Ditch Witch JT24

Built to maximize horsepower and efficiency downhole, the Ditch Witch JT24 directional drill is equipped with 101 hp and 24,000 pounds of thrust and pullback while maintaining a compact footprint. This makes the drill suitable for congested urban and residential gas, fiber and other utility installation job sites. It is designed with a wider frame than competitive units for stability to easily traverse uneven terrain and city curbs. Its economical footprint also lends itself to better maneuverability in congested areas and easier transportation between job sites. With a maximum carriage speed of 216 feet per min-



ute, it is primed for productivity by decreasing cycle times and increasing uptime. It also holds up to 400 feet of drill, making it suitable for longer bores. **800-654-6481; www.ditchwitch.com**

### Infinity Tool PDC Product Puller

The PDC Product Puller from Infinity Tool is designed to integrate with a PDC bit, allowing the product to be pulled without removing the bit at the end of the pilot bore. The puller enables massive time savings, as there is no need to remove the PDC bit at the end of the pilot bore, which means no large exit pit or heavy hand tools. **618-439-4042; www.infinitytoolmfg.com**



### Subsite Electronics TK RECON Series

The TK RECON Series HDD guidance system from Subsite Electronics offers all the benefits of the original TK Series built on an advanced-technology base that allows the company to incorporate several performance-enhancing features now and to accept upgraded features in the future. With more battery choices than the competition and improved radio performance with increased interference immunity and faster information transfer, the series is designed to enable operators to be more productive and efficient on every job site. **800-846-2713; www.subsite.com**



## Hydroexcavation Equipment

### Comet Industrial Pumps EF and EFR 75/88

EF and EFR 75/88 high-pressure plunger pumps from Comet Industrial Pumps (A Division of Valley Industries) easily handle up to 23 gpm, 4,060 psi and 43 hp. Flexible setup allows for multiple gearbox mounting positions, and a symmetric crankcase allows for simple right-to-left shaft conversion. They are designed with stainless steel and aluminum alloy to provide increased durability. They come standard with heavy-duty seals that have low-pressure lubrication and a circulation chamber. They include oversized tapered roller bearings, solid ceramic plungers, stainless steel piston guides and connecting rods with thin-shell bearings. They come standard with a flange for a direct-drive mount, but they can be adapted for a hydraulic motor or a PTO connection or set up with an input pulley and clutch. **800-864-1649; www.cometpump.com**



### Dynablast HV420F-12VRED

The Dynablast HV420F-12VRED hydrovac water heater produces 420,000 Btu with an output temperature of 175 degrees F at 5 gpm, making it suitable for colder climates and improved digging in clay-filled areas. All models come with ETL certification for safety, which also includes certification on the coil for higher efficiency and heat transfer, a stainless steel target plate for increased coil life and a design with serviceability in mind with momentary override control. A 19-by-19-inch footprint makes it suitable for compact installations. **905-867-4642; www.dynablast.ca**



### Easy Kleen Pressure Systems Wildcat Heaters

Wildcat Heaters high-pressure, oil-fired hot-water/steam heaters and hydraulic pump systems from Easy Kleen Pressure Systems are designed for reliability and efficiency and are installation-ready for vacuum trucks and hydroexcavators. A full range of heater



options includes dry steam, redundancy packages, Schedule 80 and 160 stainless steel or A53 boiler pipe, fine-tuned temperature and flow-control systems. All coils are manufactured in-house, with CRN boiler-approved coils now available. Heaters can be designed for mounting in a cabinet or supplied as a completed cabinet unit. They are CSA and ETL approved. Hydraulic pumping systems are available.

**800-315-5533; [www.easykleen.com](http://www.easykleen.com)**

### Enz USA HydroX nozzle

The HydroX nozzle from Enz USA is available in 3/8-inch NPT or 1/2-inch connecting threads, and it can function at up to 5,000 psi with flow as low as 8 gpm. It combines a powerful, oscillating water jet with the high removal rate of debris. A tungsten carbide front jet ensures a longer life than ceramic jets can offer. For quick and easy maintenance, a repair kit is available. Due to the nozzle's simplicity, repairs can be made quickly and efficiently in the field with little downtime. For the operator's safety, a plastic cover provides protection against harsh and sensitive environments.

**888-369-8721; [www.enz.com](http://www.enz.com)**



### GapVax HV33

Designed to safely transport water and debris in urban areas, the GapVax HV33 is shorter, smaller and more compact than its predecessor. It is 30 feet long overall on a medium-duty chassis and includes a 600-gallon water tank, 6-cubic-yard debris body, 6- or 8-inch top-mounted telescoping boom with a 14- to 17.5-foot reach, 4,000 cfm power and an inverted, full-opening tailgate.

**888-442-7829; [www.gapvax.com](http://www.gapvax.com)**



### HotJet USA Vac 'n Jet Series

The HotJet USA Vac 'n Jet Series of vacuum trailer jetters are rugged and compact; are engineered to haul equipment and spoils loads; can clean valve boxes and storm drains; and can hydroexcavate and/or clean drainlines and sewer lines. They offer hot and cold-water operation with a choice of engine options ranging from 13 to 66 hp and gas or diesel operation. They are equipped with premium triplex pumps, a 500-gallon spoils tank, 200-gallon water tank, Gardner Denver vac/blowers, 4-ton hydraulic dump and centri-clean filter system. They can also be custom-engineered and designed to meet specifications.

**800-624-8186; [www.hotjetusa.com](http://www.hotjetusa.com)**



### Hydra-Flex Machete

The Machete hydroexcavating nozzle from Hydra-Flex channels water in an oscillating motion, creating a smaller spray angle. This in turn provides a direct stream with a more forceful impact. This premium penetration will allow faster digging and more precise trenching capabilities. Its durable, replaceable cover allows for instant changeability while increasing the overall nozzle's life span. It is available in three sizes, with operating pressure ranges from 1,000 to 3,200 psi with a heat rating of 180 degrees F. Generating more power, it will last in excess of 500 hours, improving digging times and replacement costs.

**952-808-3640; [www.hydraflexinc.com](http://www.hydraflexinc.com)**



### NozzTeq MONRO-JET

The MONRO-JET hydroexcavation nozzle from NozzTeq combines the power of a solid-stream pencil jet with the large coverage of a fan jet. An orbital design increases performance at a lower gallon-per-minute rate and pressures as high as 36,250 psi, allowing the operator to move faster when hydroexcavating and cleaning surfaces or sewer lines. It can be used for other types of surface cleaning such as concrete, steel, castings and large surface areas including line removal from runways. It can be modified for internal cleaning of sewers and pipes of all types.

866-620-5915; [www.nozzteq.com](http://www.nozzteq.com)

### RAMVAC Vacuum Excavators by Sewer Equipment AX air excavator

The AX air excavator from RAMVAC Vacuum Excavators by Sewer Equipment is mounted on a non-CDL chassis for operator efficiency. This truck series comes standard with a single-engine design with 12-volt electrical controls and manual hand valves for ease of use and maintenance while offering onboard water for the ability to excavate with both air and water. With payload capacities from 5,000 to 12,000 pounds, the hydraulic rear door allows operators to dump spoils quickly and easily. The blower can be customized to achieve the results needed in any applications, with capacities of 18 or 27 inches Hg, 1,400 or 3,000 cfm and hose diameters of 4 or 6 inches. All water systems are contained within a single heated enclosure for cold-weather applications while also offering ample tool storage.

**888-477-7638; [www.ram-vac.com](http://www.ram-vac.com)**



### Rival Hydrovac T7 Tandem

The T7 Tandem hydrovac from Rival Hydrovac was designed primarily to be loaded with debris and driven within legislated road limits with most types of debris on board. The unit comes standard with a scale that reads real-time weights both in the cab and on the wireless remote to confirm weights prior to travel. It is operator-friendly, and the operating system is engaged through one PTO switch. The remainder of the operation occurs from the rear panel or the wireless remote. The components are high performance, and the unit will dig at levels competitive to large units, according to the maker.

**403-550-7997; [www.rivalhydrovac.com](http://www.rivalhydrovac.com)**



### Soil Surgeon hydroexcavating tool

The Soil Surgeon hydroexcavating tool fits any sewer combination truck equipped with a telescoping 6- or 8-inch boom. The tool has a 1-inch water connection. The operator controls water pressure and power through truck controls. It has a 6-foot Tuff Tube with handles to guide the unit down for potholing or side to side for trenching. Six jets boring inward cut the soil, while six boring outward bring the tube down.

**949-363-1401; [www.soilsurgeoninc.com](http://www.soilsurgeoninc.com)**



### Super Products Mud Dog

The Mud Dog hydroexcavator from Super Products is designed for operator convenience and consistent performance in the harshest environments, according to the maker. It offers an air excavation option, allowing the operator to choose water or air. It is available with a 12- or 16-yard debris capacity. It comes standard with safe tilt ejection unloading and is equipped with a rear-mounted boom that can reach 27 feet with a 335-degree rotation and can move in a 45-degree-upward and 25-degree-downward pivot. This allows for versatility within dig areas so units do not need to be constantly readjusted into position.

**800-837-9711; [www.superproductsllc.com](http://www.superproductsllc.com)**



(continued)

### Tornado Global Hydrovacs F4 ECOLITE

The F4 ECOLITE from Tornado Global Hydrovacs has a 12-cubic-yard mud tank and holds 1,550 gallons of freshwater. The unit is more than 7,000 pounds lighter than the company's older models and offers more than double the payload. The boom has a 342-degree rotation and a 26-foot reach. The smaller F3 ECOLITE is a 10-cubic-yard, 1,250-gallon tandem-axle unit that more than doubles older payload capacities. It features an 8-inch boom and 3,800 cfm blower.

877-340-8141; [www.tornadotrucks.com](http://www.tornadotrucks.com)



### Transway Systems Terra-Vex HV38

The Transway Systems Terra-Vex HV38 has a 12-yard debris tank with onboard scales for efficient hauling and offloading, complete with a 26-foot-by-8-inch telescopic boom. It has a one-touch-operated hydraulic half-door with a 3,800 cfm at 27 inches Hg hydraulically driven blower. Water pressure is achieved with a hydraulically driven triplex pump, delivering 10 gpm at 3,600 psi from a 1,000-gallon HDPE baffled water tank. The water is heated with a 420,000 Btu diesel-fired burner for cold-weather operation.

800-263-4508; [www.transwaysystems.com](http://www.transwaysystems.com)



### Vacall AllExcavate

The Vacall AllExcavate hydroexcavator is suitable for excavating soil, rocks and clay around utility lines and foundations. It uses high-pressure jetting action up to 24.5 gpm with up to 3,000 psi to loosen material. A 27-inch Hg and 5,800 cfm vacuum suctions the material and water slurry into the debris tank. The multistage vacuum filtration system has a simplified design to reduce maintenance, extend performance and increase working life. As material is deposited into the debris body, air continues to move through a dual cyclone separator where more material particles and moisture are removed. The filtered air then passes through the blower, silencer and exhaust. All models are available with three different vacuum boom tube and hose designs to accommodate customer preference.

800-382-8302; [www.vacall.com](http://www.vacall.com)



### Vac-Con X-Cavator

The X-Cavator from Vac-Con is designed to be powerful, durable, efficient and easy to operate. It features a hydrostatic drive using the chassis engine for vacuum, eliminating the need for PTO, clutch and gearbox operation. It is available with water systems up to 4,000 psi and a mobile, wireless remote-control system for chassis engine revolutions per minute, boom, automatic vacuum breaker, dump controls and hydraulic door locks from up to a half-mile away. The boom rotates 270 degrees.

904-284-4200; [www.vac-con.com](http://www.vac-con.com)



## Inspection/Mapping Software

### RapidView IBAK North America IKAS Evolution

IKAS Evolution sewer analysis software from RapidView IBAK North America is designed to give the inspector full control of acquisition and sewer data analysis. It was developed with modularity in mind. Being Pipeline Assessment and Certification Program as well as Lateral Assessment and Certification Program data interface capable, it can be adapted to the needs of modern sewer inspection and each individual user's workflow. With a standard user interface throughout the platform, once a user is familiar with one program, they will already know their way around the next one. It is available in four base bundles with more than two dozen extension options available for advanced inspections, including full high definition, 3D-GeoSense, laser measurement and LaserScan profile analysis.

800-656-4225; [www.rapidview.com](http://www.rapidview.com)



## Locator

### Vivax-Metrotech vLoc3 RTK-Pro

The vLoc3 RTK-Pro receiver from Vivax-Metrotech includes real-time kinematic GNSS accuracy. Using the internal cellular module with 4G LTE capabilities, the operator can connect to a NTRIP RTK caster that provides RTCM 3 corrections. By using these corrections, the operator can collect both utility location data along with the geographical location of the utility with survey-grade accuracy. It is designed for all operator levels, with user-friendly and intuitive locate screens. Operators confirm the utility data with the press of a button and align the electronic spirit level to store the data. All field data is sent to the cloud and retained in the receiver's onboard storage for review and exporting to external mapping programs. The user-configurable receiver contains eight passive locate modes, fault find mode and a range of configurable frequencies from 16 Hz to 200 kHz.

800-446-3392; [www.vivax-metrotech.com](http://www.vivax-metrotech.com)



## Mud/Slurry Pumps

### Gorman-Rupp SludgeKat

The SludgeKat hydraulic-driven, positive displacement sludge pump from Gorman-Rupp is designed to handle applications involving heavy sludges and slurries. It has 4-inch suction and discharge ports and is capable of flows up to 226 gpm and heads up to 390 feet TDH. Depending on the product being pumped, it can pass up to 2.4-inch-diameter solids without damaging or clogging the pump. Units are equipped with the latest in Tier 4 diesel engine-driven technology. Each comes standard with a Department of Transportation-approved wheel kit. The pump end frame can be detached from the unit, and when connected to optional 150-foot hoses, it provides increased portability around the job site. It is suitable for clarifying pits, wastewater treatment, oil and gas drilling, mud pump applications, environmental cleanup and a variety of other heavy-duty municipal, industrial and construction applications.

419-755-1011; [www.grpumps.com](http://www.grpumps.com)



### Hydra-Tech Pumps S3CSL

The S3CSL submersible 3-inch hydraulic-driven sand slurry pump from Hydra-Tech Pumps includes a built-in agitator used for stirring up solids. It has hardened alloy wear parts and is designed to be used in applications where settled solids must be put into suspension and pumped away with the discharge water. Primary applications include desilting ponds,





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lakes and streams; other uses include filling sandbags to prevent beach erosion, cleaning tanks and digesters, or pumping sediment from caissons. It requires hydraulic inputs of up to 10 gpm at 3,000 psi, and when combined with HT11 to HT20 open and sound-attenuated power units, it is capable of output flows to 450 gpm.

570-645-3779; [www.hydra-tech.com](http://www.hydra-tech.com)

## Pipe Bursting Equipment

### HammerHead Trenchless HydroGuide HG2200

The 22-ton, radio-remote-controlled HydroGuide HG2200 cable winch from HammerHead Trenchless is designed for maximum efficiency and ease-of-use in pipe bursting, sliplining and pipe slitting applications. Radio remote control provides operators maximum visibility when positioning the winch by freeing them from a position at the controls on the back of the unit. Operators simply launch the unit's 23-foot hydraulic boom with the touch of a button and can fine-tune its depth to 20 feet. The boom is adjustable along all three axes for exact positioning. Line speed and pressure for the unit's 2,500 feet of cable are both infinitely adjustable within their parameters. It is available in wheeled or tracked configurations and comes standard with hydraulic leveling jacks.

800-331-6653; [www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com)



excavation, reducing customer disruption and increasing company profits. The process replaces the existing pipe with a fused HDPE pipe, which eliminates all joints, and allows the operator to pull through bends such as 45-degree fittings. This system is modular and can be easily disassembled and reassembled for manhole and basement applications. With a compact design and very small footprint of only 20 by 20 inches, this unit can be used in tight locations.

800-344-6653; [www.powrmole.com](http://www.powrmole.com)



## Pipe Fusion Equipment

### McElroy TracStar Series 2

TracStar Series 2 machines from McElroy can fuse long polyethylene pipelines installed with sliplining, pipe bursting and directional drilling technologies. They are easy to maneuver on the job site and have a generator on board to provide electricity and hydraulic power. The machines are self-propelled on a dual-track system, which offers freedom of movement across rugged terrain. They are offered in a wide range of pipe sizes from 2-inch IPS to 48-inch O.D. pipe.

918-831-9236; [www.mcelroy.com](http://www.mcelroy.com)



### Pow-R Mole Trenchless Solutions PD-33M

The PD-33M pipe bursting machine from Pow-R Mole Trenchless Solutions is designed to replace existing underground pipes 2 to 6 inches in diameter. Its nonslip, cylinder-activated jaws prevent cable damage while providing 60,000 pounds of pulling force. It offers a cost-effective alternative to open cut

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## Success Stories:

BY CRAIG MANDLI

### Horizontal Directional Drilling and Boring



## Vacuum trailers a fit for rental market

### PROBLEM

Columbus, Indiana's, Gehring Underground sought a way to help contractors by establishing a rental fleet of various-sized vacuum excavators.

### SOLUTION

The company established MidWest Trenchless Rental and currently stocks six **Vac-Tron Equipment vacuum trailers** in its fleet. For its customer base, they chose diesel trailer-mounted systems with 500- to 800-gallon debris tanks. "The Vac-Tron **LP 573 SDT** and **LP 873 SDT** models are universal machines for utility crews and other contractors who rent from us," says Matt Chamberlain, safety manager at MidWest Trenchless Rental. "The vacs are sized appropriately, which helps contractors get more production while adhering to DOT weight limits. The units' 200-gallon freshwater tanks, 3-inch-diameter suction hose and 1,000 cfm vacuum pump are more than capable of potholing in our soil conditions."

### RESULT

The bulk of the company's rentals comes from out-of-state utility contractors who have been contracted to do a project in or around Indianapolis. To keep travel costs down, they prefer to rent potholing equipment locally. Most rentals range from a couple of days to a month, and when vacs aren't being used by utility contractors, they are frequently out on rent with municipalities, electrical contractors using them to dig in shallow electrical lines, sign installers and utility companies digging holes for posts and poles. 888-822-8766; [www.vactron.com](http://www.vactron.com) ▼

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# Happenings

## CALENDAR

**Oct. 5-9**

**Breakthroughs in Tunneling Virtual Short Course**, virtual event. Visit [www.tunnelingshortcourse.com](http://www.tunnelingshortcourse.com)

**Oct. 5-9**

**Water Environment Federation Technical Exhibition and Conference (WEFTEC)**, virtual event. Visit [www.weftec.org](http://www.weftec.org)

**Nov. 10, 12, 17 and 19**

**Pipeline Leadership Conference**, virtual event. Visit [www.plconference.com](http://www.plconference.com)

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## GOT A STORY THAT'S DOWN AND DIRTY?

Dig Different welcomes news about your tough excavation, pipe bursting, trenching, boring or tunneling job for the Down & Dirty column.

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THE LATEST:  
**News**

**Boss Industries names new director of engineering**

Todd Hudson, president of Boss Industries, announced Richard Miltenberger as the company's new director of engineering. Miltenberger's resume includes an extensive list of rotary screw manufacturers, and he worked at Boss Industries in its early years.



Richard Miltenberger

**WJTA launches hands-on hydro blaster training**

In response to the need for standardized hydroblasting training and credentials, the WaterJet Technology Association has launched a Hydroblaster Operator Certification Program. The program is based on the association's Industry Best Practices for the Use of High Pressure Waterjetting Equipment, which has been the industry's primary reference for safe and effective hydroblasting operations in North America and beyond since the mid-1980s. To ensure consistency of training delivery, the WJTA will approve master trainers to oversee the program. Master trainer responsibilities include instructing and evaluating the verified trainers, conducting audits of Field Verification training sessions, approving Verified Training Sites and providing ongoing training program development in alignment with the WJTA's industry best practices.

**ICUEE rolls out new name**

When utility professionals converge on Louisville, Kentucky, from Sept. 28-30, 2021, they will find more education, more equipment manufacturers and service providers with the utility industry in mind, and an all-new name: The Utility Expo. This all-inclusive name better reflects The Utility Expo's experience that introduces professionals from all utility sectors to the new equipment, ideas and innovations they need, all in one place.

**Elastec celebrates 30th anniversary**

Elastec celebrates its 30th anniversary in 2020. The company was founded in 1990 with the invention of the two-drum oil skimmer. The product set the foundation for the company to grow into one of the world's largest manufacturers of environmental response equipment. The company now has more than 120 employees with three locations in Illinois and one in Florida. Recently, Elastec branched out to focus on waterway trash and debris, plastic pollution and municipal waste disposal systems. The company also provides vacuum systems, baffles and turbidity curtains, power units, pumps, boats and more.

**Ditch Witch announces new Certified Training modules**

With the introduction of four new modules, more underground construction and outdoor professionals can take advantage of Ditch Witch Certified Training. The new modules include training for stand-on skid-steers, walk-behind trenchers, ride-on trenchers and the Roto Witch drilling attachment. Online training modules are available at no cost by visiting [www.ditchwitch.com](http://www.ditchwitch.com) and registering for a free MyDitchWitch account. In-person training is available at any global Ditch Witch dealer. The modules vary in length, from 30 minutes for smaller units to several hours for more complex subjects like horizontal directional drilling operation. Testing is provided to ensure those taking the modules are retaining the information. ▼

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