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SHOP TALK:

**KEEPING DRILL
CONTROLS CONSISTENT
HELPS WITH TRAINING CREW**

16

Elias Seward
Operator
Turner Underground Installations

SAFETY FIRST:

**IT'S TIME TO
SPEAK UP
ABOUT UNSAFE
SITUATIONS**

18

CHALLENGE ACCEPTED

**Embracing tough jobs keeps
New York contractor busy**

10

**SPECIAL
SECTION**

**CONTRACTOR
CAPABILITIES**

26



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- Dick, Eric, & Peter Melsheimer
Owners, Melfred Borzall



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Contents

AUGUST 2021

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FOCUS: Horizontal Directional Drilling and Boring



2021 CONTRACTOR CAPABILITIES ²⁶

Competent contractors in the alternative excavation industry demand quality products. See how these partnerships ensure success in this special section.

COVER STORY

10 **PROFILE: DIRECTIONAL DRILLING Challenge Accepted**

Second-generation owner continues the standard set by his father, embracing difficult drilling jobs and seeking out cutting-edge technology.

By Giles Lambertson

ON THE COVER:

Turner Underground Installations' Elias Seward uses a DigiTrak F2 locating system from Digital Control to help guide a Ditch Witch JT40 operated by Mark Hall on a job site installing fiber in Ogden, New York. The company, based in Rochester, New York, specializes in HDD, auger boring and micro-tunneling work throughout New England and Atlantic Coast states and as far west as Illinois. (Photography by Mike Bradley)

FEATURES

9 **Dig My Rig**

We feature Environmental 360 Solutions, Aurora, Ontario, Canada.

20 **COMPANY DIRECTORY: Horizontal Directional Drilling and Boring**

COLUMNS

7 **BELOW THE SURFACE: Working on Estimates**

Don't shy away from the attention to detail in a job quote as it will factor into your company being hired by the customer or not.

By Cory Dellenbach, Editor

16 **SHOP TALK: Consistency is Key**

Maintaining directional drill commonality is easing the industry's workforce pain points.

By Cory Maker

18 **SAFETY FIRST: Stop Being Quiet**

Not speaking up when you see safety violations perpetuates a cycle of

behavior that puts the whole team at risk.

By Ken Wysocky

24 **SMART BUSINESS: Back to Basics**

Follow these commonsense tips to network, grow and innovate through your business.

By Jeff Haden

IN EVERY ISSUE

8 **@digdifferent.com**

Visit daily for new and exclusive content.

50 **The Latest: News**

52 **The Latest: Products**

This Issue's Feature: Updated tracked fusion machine gives operator more freedom

By Craig Mandli

53 **Happenings**

NEXT ISSUE: September/October 2021

FOCUS: The Utility Expo Issue; Excavation, Trenching, Education and Safety

- Profile: Axis Vac & HDD Services (Saskatchewan, Canada)



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Advertiser Index August 2021

American Augers	31	 RIVAL HYDROVAC Rival Hydrovac Inc.	35
Boss Industries, LLC	49	 ROCK RENTAL Rock Rental	37
 Cat Pumps	2	 RODDIE RODDIE, Inc.	51
Cloverleaf Tool Co.	25	 Sonetics Sonetics	39
 GapVax, Inc.	55	 Super Products Super Products LLC	41
Kondex Corporation	50	TRUVAC by Vactor Manufacturing, Inc. ...	back cover
Melfred Borzall, Inc.	3	Underground Magnetics Inc.	43
 Milwaukee Rubber Products, Inc.	48	VANAIR	17
 National Vacuum Equipment, Inc.	6	Vermeer Corporation	45
Pressure Lift Corporation	19	VMAC	47
Radius HDD	5	WEQ Fair	15
 RAMVAC Vacuum Excavators by Sewer Equipment	33	Marketplace	53

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Working on Estimates

DON'T SHY AWAY FROM THE ATTENTION TO DETAIL IN A JOB QUOTE AS IT WILL FACTOR INTO YOUR COMPANY BEING HIRED BY THE CUSTOMER OR NOT

BY CORY DELLENBACH, EDITOR

As I am writing this column, I'm also in the middle of collecting quotes for a roof replacement project on my house from several contractors. It's a frustrating process.

First, I call a contractor and wait for them to return my call — which in some cases was almost a week later. Then they stop out, take measurements, tell me what they think and leave, promising to send over the quote quickly.

One quote came back that same day. A second one arrived two weeks later. The third quote, I'm going on two weeks waiting for it now.

It's frustrating because I want them all in before making a decision, but the longer we wait the less time we have to do it before we run out of good weather in Wisconsin.

Now, I know the readers *Dig Different* are not roofing contractors, but many of you still have to prepare quotes for potential customers. What is your policy? Do you get them those quotes ASAP, or is there a long wait between meeting with the customer and getting them the quote?

QUALITY MATTERS

When preparing a quote you want it to be professional looking and full of details a customer would want. The first quote I received was an email telling me the estimated price and two sentences of what work would be done, followed by another sentence telling me I should hurry and hire them.

The second quote was in actual contract form. It, in great detail, told me the scope of work the contractor was to do, how they would handle setup, delivery of the materials and cleanup of the site each day. I'll admit, it was

impressive seeing that work and just came off as much more professional.

The look of your estimate will say a lot about your company. Make it look as professional as you can and show the customers right away that you take pride in what you do and you'll take care of their property just like you took the time to make the estimate look good.

PAY ATTENTION TO DETAIL

You want to tell your customers what your plan is for the job site. Don't leave them guessing what you are doing when. It's frustrating for the customer to not know the schedule.

Tell them the date you would start the job, what each day might look like, what services might be cut off when — like water or electrical. Tell them how you'll secure the job site each night if work isn't completed, or how you will clean up or restore the job site after finishing.

If you foresee the need to bring in subcontractors for other work, make sure you mention that as well and how that figures into the estimate.

The more detail you put into the estimate, the better the customer will understand where you are getting the price and the more likely it is they will hire you.

LET'S HEAR FROM YOU

I'd like to hear from you on what you put into your estimates and how that has affected the work you get. Email me at editor@digdifferent.com or call 715-350-8436.

Enjoy this issue! ▼



THE MORE DETAIL YOU PUT INTO THE ESTIMATE, THE BETTER THE CUSTOMER WILL UNDERSTAND WHERE YOU ARE GETTING THE PRICE AND THE MORE LIKELY IT IS THEY WILL HIRE YOU.

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SAY CHEESE

A Gallery of Contractors

When photographers accompany our profiled contractors on job sites, far more photos are taken than are able to fit on the pages of the magazine. Every so often we put some photo galleries up on the website of those extra snapshots. Check out the latest one featuring our most recently profiled companies.

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Handling an Employee Resignation You Didn't See Coming
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HEALTHY MACHINES

Maintaining Excavator Undercarriages

When servicing excavators, oftentimes inspections focus on the hydraulics, boom arm and cab controls as they are the heart of the machine's functions. But just as important to the machine being productive is the undercarriage. Here are some maintenance tips.

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HEAVY-EQUIPMENT HAULING

Selecting the Right Trailer

There are several options to consider when choosing a trailer to haul heavy equipment, and when a variety of machines are involved, the selection process gets more complex. In this online exclusive, trailer manufacturer representatives weigh in on the top considerations when deciding what to use for equipment transport.

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dig my RIG

Environmental 360 Solutions Ltd.

AURORA, ONTARIO, CANADA



This hydroexcavator from Environmental 360 Solutions Ltd. in Aurora, Ontario, Canada, is hard to miss with its bright yellow truck and tank body lettered with the company's E360 logo. This **Westech Wolf hydrovac unit** is built on a Western Star chassis and has a 14-cubic-yard debris tank capacity and 1,500-gallon water tank capacity. The truck is fitted with a Hibon 8702 tri-lobe blower rated at 5,300 cfm and 27-inch Hg. Environmental 360 Solutions has many similar units to accomplish its hydrovac work throughout Ontario. The company also handles liquid and special waste hauling, municipal and commercial solid waste hauling, and many more services. More information on the company can be found at www.e360s.ca.

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Richard Hart, Harts Services, Tacoma, Washington

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CHALLENGE ACCEPTED



A crew from Turner Underground Installations is on a job site with the company's DD-440T directional drill (American Augers) and an CX145C excavator (CASE) to move the pipe.

"WE ALWAYS ARE TRYING TO TAKE IT TO THE NEXT LEVEL OR TRYING TO FIND A BETTER WAY TO DO SOMETHING, OR TO FIND A BETTER TECHNOLOGY THAT CAN KEEP US AHEAD OF THE CURVE."

Rhett Turner

SECOND-GENERATION OWNER CONTINUES THE STANDARD SET BY HIS FATHER, EMBRACING DIFFICULT DRILLING JOBS AND SEEKING OUT CUTTING-EDGE TECHNOLOGY

STORY: GILES LAMBERTSON PHOTOS: MIKE BRADLEY

Turner Underground Installations is a no-nonsense kind of company. Company owner and President Rhett Turner doesn't have time for frills. Heck, he barely has time for an interview, settling for a phone conversation from his truck during a trip back to the office at the end of a workday.

The busy 41-year-old executive doesn't spend much time in his office, actually, which is in a new company headquarters building in Rochester, New York. The 30,000-square-foot facility on 10 acres was erected in the last year. It's located just five miles down the road from the old company shop that Turner describes as dark and dingy. "It makes a huge difference

now to work from a building that's twice the size and is clean and organized," he says.

The steel framework of the building was going up in March of last year when the pandemic began to disrupt everything, including the building's construction. Work at the site was interrupted for two months when building contractors were declared nonessential to the economy: The project came to a standstill.

Yet more disruptive than COVID was the death that same month of Turner's father and company founder, Robert (Bob) Turner. "For a while, it

Auger boring makes up approximately 20% of the company's work, providing an option for cutting through rock and challenging soils.

was a little scary," Rhett Turner says of that period. "Dad had passed away, and I had stepped up into his position as president and the whole pandemic thing was there. It was a little uncertain which way things were going to go. But I had a lot of good help that took some of the load off me, and I was very grateful for that."

And work continued. Turner Underground's work was deemed essential because it served utilities. "We were fine in terms of work," Turner recalls. "We never had to lay off anyone."

A year later, Turner Underground Installations is still going full-bore.

INTRODUCING A NEW METHOD

A quarter century ago, Bob Turner began to explore the possibility of

PHOTO COURTESY TURNER UNDERGROUND INSTALLATIONS



Turner Underground Installations

Rochester, New York

<https://turnerunderground.com>

OWNER: Rhett Turner

EMPLOYEES: 30

YEARS IN BUSINESS: 25

SERVICES: HDD, auger boring and micro-tunneling

SERVICE AREA: New England and Atlantic Coast states and as far west as Illinois

helping introduce horizontal directional drilling technology to the Northeast. Turner was working in the construction industry, but wanted to get into something that was unique.

"He used to say that if you are doing the same thing everyone else is, you are kind of stuck," Rhett Turner says.

Because HDD intrigued Bob Turner, he traveled west to get a closer look at the technology in action. Directional drilling dates from 1971 and is an offshoot of oil well drilling technology. Drilling for pipelines and utility lines had built up the industry to the point that by 1996, when Bob Turner evinced interest, some 25% of in-ground work was being done by trenchless pipe-laying machines. Five years later, after telecommunication companies became customers, the volume of trenchless work jumped to 50% of the market.

"EXPERIENCE IS A MAJOR FACTOR IN OUR SUCCESS. OUR WHOLE INDUSTRY IS BASED ON A BUNCH OF PROBLEMS. WHEN WE RUN INTO THEM, WE HAVE TO COME UP WITH A REMEDY AND MOVE FORWARD."

Rhett Turner



Rhett Turner, owner and president of Turner Underground Installations

Turner Underground Installations was launched on the strength of its owner's confidence in the future of the trenchless industry. He invested in a small Underground Tools, Inc. directional drill capable of 25,000 pounds of force and began to bid modest projects in the Rochester area.

Before long, the new company hooked up with utilities and telecommunication firms that were laying fiber optic cables. "The work took off from there," Rhett Turner says. "Once he got into fiber optics, the work began to come in. All kinds of projects, including some bigger projects that would take him all over the place. He kind of had all his eggs in one basket — fiber optics."

The company's clientele is more diverse now. Utility contractors still are a staple, but project stakeholders have included electric and natural gas companies, the Department of Transportation, railroads and airports, manufacturers and college campuses, windfarms and municipalities. "We do a little bit of everything," Turner says. "We go where the market needs our services."

Turner Underground primarily serves clients in New York state. Just 20% of work is in other states — quite a few other states, though. Turner crews have drilled and bored in 18 states along the Atlantic coast from South Carolina to Maine, west to Michigan and Illinois and south to Alabama. The company owner says he is open to working anywhere in the country. "We'll go wherever the work is, within reason."

The bulk of the work is horizontal directional drilling — about 75% — with auger boring accounting for another 15-20% and the remainder, micro-tunneling. The particular types of projects vary from day to day and month to month, but a typical drill job for the company will run a thousand feet or less for a pipe 24 inches in diameter or smaller.

"We have the capability of drilling three or four thousand feet," he adds. In other words, if it is a river a utility customer needs to tunnel under, no problem, but usually the task is drilling under tree roots that a property owner doesn't want disturbed or boring under a busy street to avoid interrupting traffic.

The president says that "in 2009, we drilled for a utility laying fiber optic cable in Massachusetts. The job took us all across the state of Massachusetts, drilling under a large variety of obstacles." The duration of a typical drilling job? "It all depends," he says. "Some of them will take one day and some will require us to work for six months."

AN INVESTMENT IN EQUIPMENT

In Rochester, there are numerous Ditch Witch machines sitting in the equipment yard of Turner Underground Installations — or there would be if they weren't scattered across the region working on client projects. If a visitor were to visit the property when all the machines were home for the night — admittedly, a rare occasion — he would see about a dozen Ditch Witch units ranging from 27,000 pounds of thrust to 100,000 pounds of thrust — three of the large units.

Also parked there would be three American Augers directional drills, including two capable of 440,000 pounds of thrust and pullback. In the mix



Operator Elias Seward uses the Ditch Witch JT40's remote to move the directional drill into position at the entry pit.

Finding the Latest in Equipment and Technology

Auger bores are not little widgets. For example, the Barbco 48/60-950 auger is 15 feet long and weighs 12 tons. The machine comes with a price tag commensurate with its weight. The smallest horizontal directional drill in the Turner Underground Installations fleet of machines — a Ditch Witch JT2720 — can cost \$40,000, and that's for a 10-year-old unit with 3,600 hours on it, according to machinery sales ads.

Yet the Rochester, New York, company continues to run a fleet of state-of-the-art machines. The contractor's latest acquisitions are Ditch Witch directional drills, one with 30,000 pounds of thrusting and pullback power and the other with 100,000 pounds. At the time of the interview, a third unit — a machine capable of 40,000 pounds of push-pull power — was being delivered.

Turner Underground Installations is committed to maintaining a fleet of current equipment. As it states on its website: "Reliable, cutting-edge equipment is a key factor for success in the horizontal directional drilling field. Regular turnover and upgrading of equipment ensures that our customers

receive industry-leading results with minimum downtimes and high efficiency."

Such ongoing modernization is easier said than done. Every company wants brand-new equipment working a job site, bringing the latest technology and efficiencies to a project. But actual spending of capital can run smack into bottom lines that don't allow it.

Turner Underground owner and President Rhett Turner says his company, which is 25 years old, had to patiently work to where new equipment purchases could be routinely done.

"It took years to get where we could consider doing that," he says. "It took 20 years for us to be financially able to entertain that replacement schedule. We finally are getting to the point where we can do it."

Ironically, having the latest technology on the job has a downside, as Turner acknowledges. "We also know that everything is computerized and every engine has emission control devices. New equipment doesn't solve all your problems because you can't work on the stuff like you used to be able to do."

of equipment would be three American Auger boring machines, one of them with 108,000 foot-pounds of torque, and a Barbco 48/60-950 boring machine with 241,000 foot-pounds of torque and almost a million pounds of thrust. The Barbco auger can be configured to bore holes five feet in diameter.

So, some of these are, in a word, big machines with the deadweight and horsepower to cut and ram their way through rock and difficult soils. Also in the equipment yard are mud pumps and mixers, pipe-fusing equipment and the other auxiliary tools of drilling. Consequently, Turner also is in the hauling business. That is, the company has about 40 trucks to carry machinery and supplies from project to project, including pickups and 10-wheelers, dump trucks and "a ton of trailers."

The Turner Underground website says this about its equipment: “Turner has never been timid about investing in the machinery, tools and vehicles necessary for getting the job done.” The capital tied up today in the company’s machinery totals more than \$13 million. This represents more than just a cost of doing business. It is a pledge to customers that Turner Underground will efficiently complete whatever task it has been contracted to do.

TAKING ON CHALLENGES

Bob Turner’s inclination to do things that others aren’t doing led him to look into horizontal directional drilling and auger boring, and the rest is history. His son has the same contrarian conviction about work. The company’s reputation reflects it.

“I would say that we are recognized for liking the more challenging projects, rather than regular old busy work,” Rhett Turner says. “We always are trying to take it to the next level or trying to find a better way to do something, or to find a better technology that can keep us ahead of the curve.”

All underground projects deal with unknown challenges, of course, with drilling heads usually going where no drill has gone before. Unsuspected rock formations or abandoned and forgotten footings or pilings sometimes are encountered where soil was expected to be. So, even best-planned drilling or boring projects can bump into problems.

Yet some underground projects are just harder. They have a large enough degree of difficulty built into them that not every HDD contractor wants to take them on. Enter Turner Underground Installations. “A lot of the jobs go as scheduled, but drilling is not cut and dried over and over,” Turner says. “You have your projects where you have to really pull out the moves to make it happen.”

The market where Turner Underground operates is cursed with a large variety of rock and soil conditions, each of which can present a challenge. Such a variety of conditions is not the case in some other parts of the country.

“Drilling is difficult in our region because we have so many different challenges. We have a wide range of everything in the ground,” Turner says. “There are places we have worked that you hope you never hear from anyone there again, but the next thing you know you get a call and need to go back there for something else.”

The company’s positive response to such calls has led to lots of return customers for Turner Underground. The owner says the company has partnered with many contractors across the region through the years “and we have a good working relationship with them.”

Through trial and error at its own expense, Turner Underground Installations has built a reputation for dependably completing contracted projects. In a crunch, Turner leans on industry friendships in different parts of the country for suggestions. His peers, in turn, call him when things get tricky on their end.

“Experience is a major factor in our success. Our whole industry is based on a bunch of problems. When we run into them, we have to come up with a remedy and move forward. When we succeed, we are recognized for being innovative and reliable.”

Looking around, wouldn’t it be easier to manage, say, a site preparation bulldozing business? “No, that’s boring compared to our work. I love the work, except maybe for all the rules and regulations and engineers who think they know everything. And I have a positive outlook for the future. There’s a lot of infrastructure that needs to be replaced. We might have to shift markets a little bit to get work, but we’ve made it this far and I’m feeling very positive.” ▼



Years in the business and sound financial planning have allowed Turner Underground Installations to routinely purchase new equipment.

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Turner Underground Installations’ MCS-1000 portable bentonite system by Tulsa Rig Iron sits outside the company’s new headquarters in Rochester, New York. The unit typically travels with the company’s larger directional drills.

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A contractor uses a Ditch Witch drill on a job site. Aside from controls and electronic interfaces, some manufacturers offer the same drill operation across their pipe and tooling, features, operator platform and overall machine design.

Consistency is Key

MAINTAINING DIRECTIONAL DRILL COMMONALITY IS EASING THE INDUSTRY'S WORKFORCE PAIN POINTS

BY CORY MAKER

When utility contractors talk about their biggest horizontal directional drilling (HDD) pain points, the workforce shortage is consistently near the top of the list.

Due to the lack of available workers, HDD contractors must run fewer crews and are forced to adhere to tighter timelines as they move from one job site to the next. Some contractors even report having the work demand to staff up to six more underground construction crews. But with no one to operate their machines, they can't take on the jobs, which results in missed revenue opportunities.

To combat this issue, manufacturers are focusing their efforts on improving equipment to help ease the strain of the workforce shortage and increase job site efficiency. One way that manufacturers are supporting the workforce is through maintaining machine design and consistency

across contractors' HDD fleets. Here are examples of how machine commonality is helping boost productivity, reduce downtime and increase overall return on investment (ROI).

REDUCE TRAINING TIME

HDD operators know that training and safety are essential to the success of an underground operation. Before boots can even hit the ground, crews

BY MAINTAINING COMMONALITY ACROSS THEIR MACHINE FLEETS, MANUFACTURERS CREATE A FAMILIAR WORKING ENVIRONMENT FOR OPERATORS SO THAT THEY DON'T HAVE TO SPEND AN OVERWHELMING AMOUNT OF TIME LEARNING A DIFFERENT DRILL.



A contractor is getting some instruction from a Ditch Witch trainer while on a directional drill. One way that manufacturers like Ditch Witch are supporting the workforce is through maintaining machine design and consistency across contractors' HDD fleets.

should have received some form of operator training on the machines they'll be piloting.

Training provides the tools and techniques necessary to complete a variety of underground construction projects and is imperative in keeping crews safe. However, as the HDD industry continues to evolve, so do the machines.

Some drills are redesigned to feature boosted power while others offer increased stability and maneuverability for compact job sites. But regardless of the upgrades, contractors are looking for machines that are easy to learn and operate, and don't require ongoing training — especially with the workforce shortage constricting operators' time. That is why manufacturers are increasingly designing their drills with commonality in mind.

By maintaining commonality across their machine fleets, manufacturers create a familiar working environment for operators so that they don't have to spend an overwhelming amount of time learning a different drill. This saves operators unwarranted downtime and reduces the risk of operators damaging a drill because they used the wrong machine function. Simply put, if operators are trained on one drill, then they fundamentally can operate them all.

DIFFERENT JOB, DIFFERENT MACHINE, SAME CONTROLS

The demand for underground work is increasing across applications, 5G installation is booming and demand for residential work like irrigation instal-

[WITH CONSISTENT STANDARDS] OPERATORS CAN QUICKLY IDENTIFY WHEN A MACHINE NEEDS TO BE SERVICED OR ENGAGE IN DAILY MAINTENANCE REQUIREMENTS AS THEY SWITCH FROM ONE MACHINE TO THE NEXT, WHICH HELPS KEEP THE EQUIPMENT SAFE, PRODUCTIVE AND EFFICIENT.

lation is also at a high. With underground contractors facing job requests from multiple sources — and workforce challenges reducing the number of crews they can run — jumping from job to job quickly is a common occurrence in today's market.

And to further complicate matters, contractors know that different jobs often require different drills. While a large drill may be a fit for fiber installation, installing an irrigation line is an entirely different beast and will require a smaller drill. Common drill designs help reduce confusion and allow workers to hop on different machines at different job sites and work without any hesitation.

For example, the Ditch Witch JT28 is one of the most powerful mid-size drills the company offers, but it has the same interface and control scheme as the JT5 — the most compact drill that Ditch Witch manufactures. The same operator can use both drills without having to learn a whole new system.

Aside from controls and electronic interfaces, some manufacturers offer the same drill operation across their pipe and tooling, features, operator platform and overall machine design. This helps operators feel more comfortable and confident moving from one drill to the next and minimizes any downtime spent learning a new drill. With the ability to move from drill to drill, operators can bid on more projects, boosting the overall ROI of the job site.

SIMPLIFY MAINTENANCE

Common drill designs also can simplify required downtime work like maintenance. And by keeping industry standards and best practices consistent across machines, manufacturers are putting contractors in a position for success.

Operators can quickly identify when a machine needs to be serviced or engage in daily maintenance requirements as they switch from one machine to the next, which helps keep the equipment safe, productive and efficient. To facilitate this, many manufacturers develop machines with easy-to-understand service manuals, proper tooling guidelines and equipment best practices that are easy to follow on any machine.

With more simplified maintenance routines and consistent system controls across drills, operators can also reduce the impact of downtime. For example, Ditch Witch directional drills are designed with no daily service points besides the need to check for fuel and oil, helping to minimize upkeep tasks. And with daily maintenance points found in one easy-to-access location across all directional drills, operators don't have to spend valuable time on maintenance routines.

SOLVING THE INDUSTRY'S ACHILLES' HEEL

HDD manufacturers are constantly innovating to keep up with industry standards and best practices. And by maintaining machine design and consistency, they can help operators reduce the amount of time

spent on training and maintenance and seamlessly transition from one machine to the next. This will help contractors break into new industries and confidently take on more jobs, which is especially important since there is no shortage of work — just a shortage of workers.

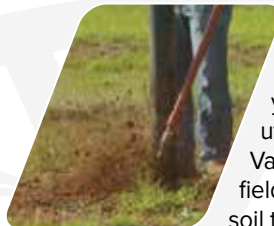
ABOUT THE AUTHOR

Cory Maker is the HDD product manager for Ditch Witch. ▼



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Stop Being Quiet

NOT SPEAKING UP WHEN YOU SEE SAFETY VIOLATIONS PERPETUATES A CYCLE OF BEHAVIOR THAT PUTS THE WHOLE TEAM AT RISK

BY KEN WYSOCKY

So you see a colleague violating a safety procedure while operating a vacuum excavator or directional drill. Or breaking an office ethics protocol.

Given most people's propensity for avoiding conflict, it's undoubtedly tempting to just let things slide. After all, who wants to be perceived as that person on the office team or field crew — the one who thinks they're perfect and always calls out other people on the error of their ways?

Fortunately, you can have it both ways — as in, speak out and hold people accountable while still maintaining good workplace relationships. The trick is to do it with the right motivation and attitude, and to hopefully work at a place where management builds a culture where accountability is prized, says Joseph Grenny, the co-founder and co-chairman of VitalSmarts, a national leadership training organization.

If you're one of those people who finds speaking out is as difficult as cleaning a sewer line with a toothbrush, you're not alone, notes Grenny, who's also a four-time *New York Times* bestselling co-author of business books. (Titles include *Crucial Conversations: Tools for Talking When Stakes Are High*; *Crucial Accountability: Tools for Resolving Violated Expectations, Broken Commitments, and Bad Behavior*; and *Influencer: The New Science of Leading Change*.)

"We've spent more than 30 years talking about the consequences of avoiding crucial conversations, which is absolutely ubiquitous in the workplace," he observes. "So many of the common complaints in our lives have roots in our inability to handle these crucial conversations."

IT'S NOT EASY

Why is speaking out so hard to do? Part of it stems from the way we've been hard-wired to think pessimistically about outcomes from confrontations. "That mentality served us well in prehistoric days when we were constantly faced with physical threats," he says. "But it doesn't serve us as well now, when we have to deal more with social challenges."

Moreover, the worst outcomes we can imagine rarely ever happen, he adds.

In other instances, employees feel like it's not their place to tell others what to do or how to act. Or they figure it won't do any good. Or they don't know what to say or how to say it without being offensive.

But in the long run, there are obvious downsides to ignoring such transgressions. For starters, if you don't talk things out, you'll probably act it out, creating a downward spiral of trust and repressed anger that can destroy team morale. "It all gets expressed one way or another through things like sarcasm and resentment," he says.

Second, problems avoided typically turn into recurring issues that can create damaging ripple effects in the workplace — which puts everyone's safety

at risk. "It becomes a chronic problem through the unwitting consent of people around them who don't say anything," he notes.

Of course, there's always a chance things can go sideways when someone speaks out about something in the workplace. "But if you don't say anything at all, it never goes well either," Grenny says. "Things such as employee retention and strong engagement are all strongly tied to workplaces where people speak up about emotionally and politically risky things."



KIND REMINDERS

So how does one go about handling these delicate situations? First of all, don't wait and don't go to your boss first. Research performed by VitalSmarts shows that in high-performance organizations, issues get handled between peers and at the moment they occur, Grenny says.

"Escalations [going to a supervisor] almost always end in failure," he explains. "They're unnecessary political and social behaviors that drag down the process of managing a fairly straightforward and logical process."

WHY IS SPEAKING OUT SO HARD TO DO? PART OF IT STEMS FROM THE WAY WE'VE BEEN HARD-WIRED TO THINK PESSIMISTICALLY ABOUT OUTCOMES FROM CONFRONTATIONS.

Also keep in mind that to achieve good results, it pays to ensure your motives are right — a mindset Grenny calls "kind to remind." In fact, Grenny says the best indicator of how a crucial conversation will go is the reason you want to have it in the first place. If you want to punish, belittle or prove you're right, expect it to go badly.

"Too often we behave in ways that prevent the outcome we want," he says.

On the other hand, good things happen when you speak from a sense of kindness. "Positive intent is a huge indicator of how well things will go," he explains. "Before you open your mouth, you need to pause and think about what you really want. If it's a legitimate concern, ask yourself what you want for the other person so you're not coming from a selfish place."

ACCEPT COMPLAINTS GRACEFULLY

If you're on the receiving end of the criticism, it's crucial to assume what Grenny calls an "attitude of gratitude." In other words, politely accept any

reminders to follow certain safety rules and assume they're being expressed with good intent.

Companies can help enforce this mindset by creating a culture of accountability — a place where it's the norm to say, "OK, thanks for the reminder," whenever someone speaks out about a safety violation.

"When such a response becomes a cultural norm, it reduces the emotional stakes involved," Grenny explains. "It's not hard to create such a social contract, but very few organizations do it. It takes training and presentations and leaders who are willing to reinforce and model it.

"It's kind of like getting a train started. It requires enormous energy at the beginning to get it started. But after that, it's easy to sustain."

Last but not least, after people speak up, they then need to let things go, understanding that they cannot control the colleague's response. "Don't turn it into an ego match or a test of wills," he advises. "Deliver the message, and then look out for your own safety.

"Most of us in those moments attach our self-worth to whether or not the other person agrees with us or complies. But we don't need to do that. Just do what you're supposed to do in a graceful way and let them handle it how they handle it."

If this approach doesn't work, then it's OK to take the matter up the ladder to a supervisor or someone in human resources or a safety department — whoever has responsibility for the respective issue.

In the long run, inaction is not the best option. When handled the right way, speaking out trumps silence. As Grenny points out, "The inability to do so adversely affects every workplace outcome we care about." ▼

"DON'T TURN IT INTO AN EGO MATCH OR A TEST OF WILLS. DELIVER THE MESSAGE, AND THEN LOOK OUT FOR YOUR OWN SAFETY."

Joseph Grenny

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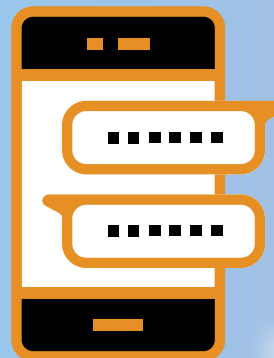


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Back to Basics

FOLLOW THESE COMMONSENSE TIPS TO NETWORK, GROW AND INNOVATE THROUGH YOUR BUSINESS

BY JEFF HADEN

Jeff Bezos founded Amazon in 1994. Today he's one of the richest people in the world. But while Amazon is undeniably a tech company, the business was built on this old-school premise: Focus on the things that don't change.

The premise, while simple, is also easy to forget when innovation seems to be the secret of massive success. Catching the next wave, predicting the next trend, disrupting an industry or hacking your way to near-immediate success, sparking change — that's what works. But it's hard to be innovative. It's hard to be truly disruptive. Knowing what will change — that's incredibly difficult.

Bezos doesn't worry about what will change. He focuses on what won't change. Bezos built Amazon around things he knew would be stable over time, investing heavily in ensuring that Amazon would provide those things.

Here's Bezos:

I very frequently get the question: "What's going to change in the next 10 years?" And that is a very interesting question; it's a very common one. I almost never get the question: "What's not going to change in the next 10 years?" And I submit to you the second question is actually the more important of the two — because you can build a business strategy around the things that are stable in time. ... (I)n our retail business, we know that customers want low prices, and I know that's going to be true 10 years from now. They want fast delivery; they want vast selection.

It's impossible to imagine a future 10 years from now where a customer comes up and says, "Jeff, I love Amazon; I just wish the prices were a little higher." "I love Amazon; I just wish you'd deliver a little more slowly." Impossible.

And so the effort we put into those things, spinning those things up, we know the energy we put into it today will still be paying off dividends for our customers 10 years from now. When you have something that you know is true, even over the long term, you can afford to put a lot of energy into it.

Focusing on things that won't change does not guarantee success — but it provides as close a foundation for success as you will find. Whether you run an underground utility business or work for one as a driver or technician, here are a few timeless principles that consistently provide professional and personal success:

Focus on collecting knowledge ...

Competing is a fact of professional life: with other businesses, other products, other people. It's not a zero-sum game, but it is a game we all try to win. Smart people win a lot. Smarter people win even more often. Continually striving to gain more experience and more knowledge is the second-best way to succeed.

... but always focus more on collecting knowledgeable people

You can't know everything. But you can know enough smart people that,

together, you know almost everything. And, together, you can do almost anything. Work hard on getting smarter. Work harder on getting smart people on your side. How?

Always give before receiving

The goal of networking is to connect with people who can provide a referral, help make a sale, share important information, serve as a mentor, etc. When we network, we want something. But, especially at first, never ask for what you want. Forget about what you want and focus on what you can give.

Giving is the only way to establish a real relationship and a lasting connection. Focus solely on what you can get out of the connection and you will never make meaningful, mutually beneficial connections. Approach networking as if it's all about them and not about you and you'll build a network that approaches it the same way.

And you'll create more than contacts. You'll make friends.

YOU CAN'T KNOW EVERYTHING. BUT YOU CAN KNOW ENOUGH SMART PEOPLE THAT TOGETHER YOU KNOW ALMOST EVERYTHING. AND, TOGETHER, DO ALMOST ANYTHING.

positive and negative — and evaluate information, advice or input solely on its merits. When Branson says, "Screw it; just do it and get on with it," it's powerful. If the guy who delivers your lunch says it, it should be just as powerful.

Never discount the message because you discount the messenger. Good advice is good advice, regardless of the source.

Always work on "next"

It's impossible to predict what will work, much less how well it will work. Some products stick, for a while. Some services flourish, and then don't. Some ventures take off, and then flame out. Some careers take off, and then stagnate. No matter how successful you are today, always have a next in your pipeline.



Jeff Haden

Always look past the messenger and focus on the message

When people speak from a position of power or authority or fame, it's tempting to place greater emphasis on their input, advice, and ideas. Warren Buffett? Yep, gotta listen to him. Sheryl Sandberg? Yes. Richard Branson? Absolutely.

That approach works to a point, but only to a point. Really smart people strip away all the framing that comes with the source — both

If somehow your current products or services or ventures continue to thrive, great: You will have created a bigger line of products and services and ventures. That's how successful people weather the storm when times are tough and become even more successful when business is booming.

Always take responsibility

If you're always right, you never grow. One of the best things you can do is to be wrong because when you make a mistake, you are given the chance to learn. (Don't worry. Every successful person has failed numerous times. Most have failed more than you. That's why they're successful today.) Own every mistake, every miscue and every failure. Say you made a mistake. Then commit to making sure that next time things will turn out very differently.

Always turn ideas into actions

The word *idea* should be a verb, not a noun, because no idea is real until you turn that inspiration into action. Ideas without action aren't ideas. They're regrets. Every day we let hesitation and uncertainty stop us from acting on our ideas. Fear of the unknown and fear of failure are what stop me and may be what stops you, too.

Think about a few of the ideas you've had, whether for a new business, a new career or even just a part-time job. Looking back, many of your ideas would have turned out well, especially if you had given them your best effort. Trust your analysis, your judgment and your instincts. Trust your willingness to work through challenges and roadblocks.

ABOUT THE AUTHOR

Jeff Haden is a contributing editor for Inc.com and a LinkedIn Influencer. He is the author of The Motivation Myth: How High Achievers Really Set Themselves Up to Win. ▼

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When quality counts, Cat Pumps is the go-to choice for high-pressure water pumps and systems. Down to the last detail, the company's products are designed to keep your equipment running longer.

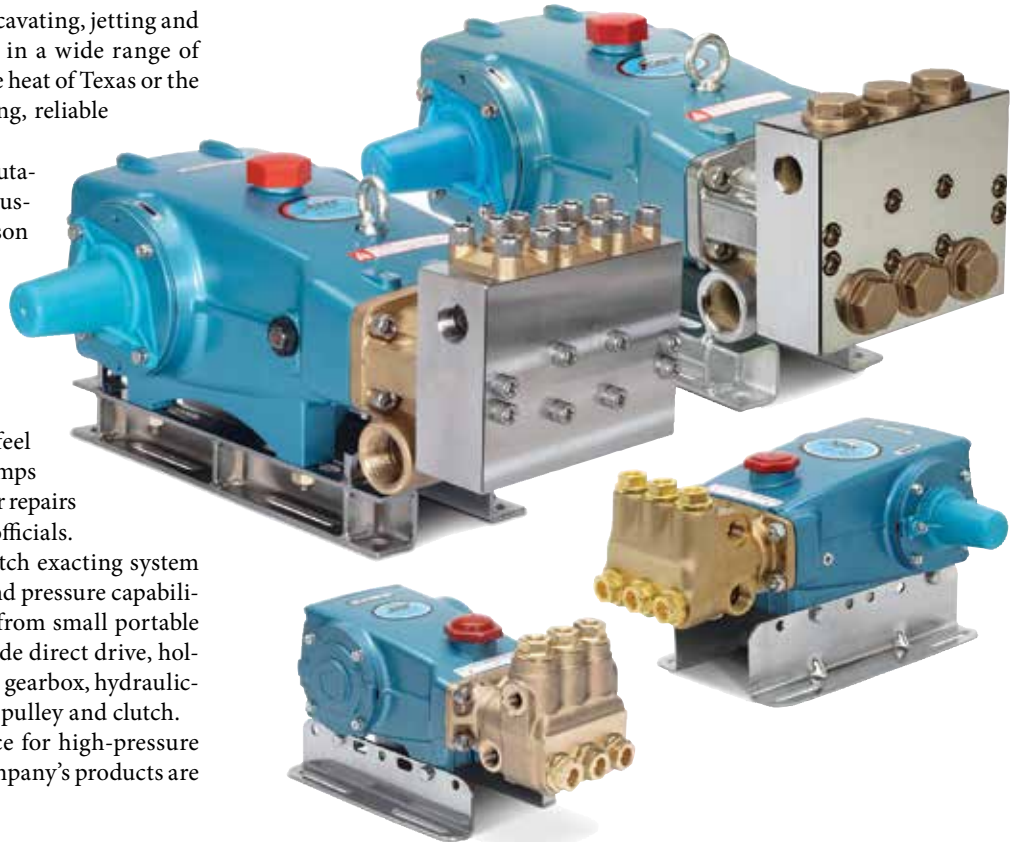
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Cat Pumps manufactures and supplies high-end industrial triplex high-pressure plunger and piston pumps and related products. With a reputation of being a premier pump supplier, the family-owned Minneapolis company designs pumps that meet the rigorous requirements of markets like high-pressure cleaning, hydroexcavation, heavy-equipment washdown and seawater reverse osmosis desalination.

From initial design to materials and manufacturing, dedication to quality and service has been the foundation of the Cat Pumps philosophy since its founding more than 50 years ago. "The company was started out of necessity to develop a new pump design that was dependable, efficient and long lasting,"

says Scott Bruggeman, vice president of sales and marketing. "We've adhered to those ideals, and today Cat Pumps products are in use in thousands of applications around the globe."

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GapVax's G7 Jetter Makes Its Debut

Requested by dealers and customers, the G7 Jetter made its debut this year. Like everything else GapVax builds, a variety of options allow for customizing the G7 to fit customers' needs. GapVax engineered the trailer jetter as "fit and finish," as each component is powder coated to ensure durability and longevity.

FEATURES AND OPTIONS

The G7 Jetter is built on a heavy-duty, contractor-grade NATM-certified trailer. GapVax provides several engine choices, including Cummins diesel, and all are certified and sized appropriately for the water pump combinations. GapVax does offer trailer mount or skid mount for this style jetter.

The triplex high-pressure water pump is designed to use water up to 300 microns, and is available at 18 to 40 gpm at 2,000 to 4,000 psi. Stainless steel fluid lines under the trailer allow for durability and longevity.

The jetter hose reel is hydraulically powered with a direct-drive gearbox and features variable speed control; heavy-duty water swivel; 3-foot curbside articulation from center of bearing; and 180-degree rotation mounted on a heavy-duty 10-inch bearing with external grease fittings, footage counter and 800 by ¾-inch capacity hose reel (other options available). The controller displays engine readings and diagnostics to include fuel level, water on/off, and warning alarms/lights among other options.

READY TO WORK

The G7 is built for routine maintenance and blockage removal, as well as washdown needs from lift stations to heavy equipment cleaning. The G7 Jetter is in it for the long haul, ready to work every day, all day.

GapVax prioritizes the design, ease of use and low maintenance of its units. Coming from a service company background, GapVax incorporated all things learned from that company into the truck's design. "By the operator, for the operator" is a slogan GapVax continues to stand behind.

"The fit and finish on this unit surpassed anything that I ever saw in all my years of selling similar equipment," says Paul Folker of Lonestar Municipal Equipment. "The quality of the welds, the routing of your hoses and wiring, and the powder-coat finish were all absolutely superior . . . and this is a unit that your people can be very proud of."



GapVax's story began when Gary A. Poborsky created GAP Pollution & Environmental Control Inc. after the Johnstown Flood of 1977 in Pennsylvania. Poborsky set out to help with flood cleanup around the city, which eventually led to more and more work, allowing him to grow his business. From this, Poborsky began trying all of the equipment available on the market. When his company's suggestions for improvements were ignored by manufacturers, Poborsky ended up manufacturing his own trucks and equipment for his service company. Various customers began wanting to buy Poborsky's equipment, and essentially, GapVax Inc. was born in 1989. The goal of GapVax Inc. was to provide the best possible equipment inspired by the operator, for the operator, using the best quality components and keeping the design easy to operate and maintain. That still holds true today, over 30 years later.

888-442-7829 | inquiry@gapvax.com | www.gapvax.com

How to Dig Smart With a Hydroexcavator

Hydroexcavation is the preferred method of digging a hole in sensitive areas because it mitigates hazards, such as utility line strikes, that are costly and often associated with traditional mechanical excavation.

Extremely efficient hydroexcavation equipment has the reputation of a more precise, less-destructive and safer method for daylighting, soil trenching, digging piling holes, removing debris and cold-weather digging.

Here are three key steps to follow when you plan to dig a hole with a hydrovac:

1. Mark the proposed site with white paint.
2. Call 811 well in advance of the date you plan to dig and wait for utilities to mark the proposed site and confirm that all utilities responded to your 811 ticket prior to digging.
3. Dig.

DIGGING AROUND UTILITIES

Digging a hole with a hydrovac is achieved in four simple steps to dig around existing utilities, gas mains and power lines without risking damage to the infrastructure or injury to workers on the site:

1. Slice the ground surface using the straight-tipped pressurized water wand to forcefully inject water. As per Gas Technology Institute's "Vacuum Excavation Best Practice & Guideline," maximum water pressure during excavation in public roads or easements is not to exceed 2,500 psi; below a depth of 18 inches, the water pressure to be used at any time with a straight-tipped nozzle shall be reduced to a maximum of 1,500 psi and monitored using a pressure gauge mounted on the excavation machine.
2. Vacuum up the dry or wet excavated material that is displaced.
3. Change the wand tip to a rotator nozzle for agitating a larger amount of soil without using more water, resulting in a more efficient break up and removal of the soil. As the non-destructive excavation continues, the vacuum removal of the spoils allows visual confirmation of the presence of a utility line, creates a trench, or clears out debris, depending on the job. GTI's best practice guidelines state maximum water pressure to be used with a rotating nozzle during excavation shall be 3,000 psi and, again, monitored using a pressure gauge mounted on the excavation machine.
4. Successfully avoid damage to utilities or tree roots.

MAKE USE OF OPTIONAL FEATURES

Consider optional manufacturer features when determining how you can dig smart for even more productivity, precision and control in the digging process.

Debris bodies come in varying volumes and payloads for mid-size to full-size excavations. A larger debris body is designed to maximize dig time and minimize dump time.

Compact hydroexcavator models for tight urban areas requiring maneuverability may be available in non-CDL configurations, and offer quick setup allowing operators to flip a single switch to begin operations, which greatly reduces setup and teardown time.

Vacuum systems of various types offer flow and pressure ratings to most effectively break up and remove soil types such as wet or rocky soil, compacted dirt and clay, or loosely compacted soil and sand. Based on different geographies and local soil conditions, there may be other useful options and accessories worth the investment.

Additionally, hydroexcavation best practices define pressure limits based on excavation depth. New technology is available to prevent water system pressure from exceeding site or industry requirements and effectively take human error out of the equation for increased safety.

All these features contribute to increased productivity on the job. The result is smarter digging that will be even more profitable for the contractor.



TRUVAC is a premium brand of vacuum excavator trucks designed specifically to meet the critical need for locating and verifying underground utility lines and pipes and safe-digging requirements in the United States and Canada. Focused on quality and safety for underground infrastructure and the men and women who operate vacuum excavation trucks, the TRUVAC product line features the versatile Paradigm subcompact vacuum excavator, the compact and powerful Prodigy with overwhelming productivity, and the HXX series of full-sized machines designed to tackle the biggest digging projects.
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Five Reasons to Invest in an Electric Auger Boring Machine

BY RICHARD LEVINGS, PRODUCT MARKETING MANAGER, AMERICAN AUGERS

The construction industry is seeing the beginnings of change. Electrical equipment is starting to gain traction in many parts of the world. While worldwide transition may be slow, the benefits of electric equipment will loom large in the future.

Many cities around the world already have regulations in place that will limit or ban the use of diesel-powered cars in the coming years. And now some cities are eyeing similar regulations to reduce the use of diesel-powered construction equipment. In Oslo, Norway, for example, a new procurement strategy has led to nearly zero-emissions building sites.

However, contractors shouldn't only consider a shift to using electric equipment as a matter of compliance. Electric equipment can deliver many on-the-job benefits — from quieter and safer work sites, to enhanced equipment performance.

The value that each contractor can realize from electric equipment will depend on their unique business challenges and job site requirements. But there are some common benefits that every contractor can expect to gain from using electric equipment.



REDUCED FUMES

Traditional diesel-powered auger boring machines generate exhaust and diesel fumes. And because the machines are typically used in subsurface environments, these fumes can create health and safety concerns for workers.

In some jobs, a contractor may need to limit the amount of time operators can spend underground because of exposure to fumes. In addition, the contractor may need to use special equipment to monitor air quality and cycle fresh air down to the pit. Of course, this can slow down work and add extra costs and logistics to a project.

An electric auger boring machine has no emissions. It allows crews to do their jobs without worrying about breathing in fumes or having to step away from the job site for health reasons. An electric option also saves costs by reducing the need for air-monitoring or circulation equipment.

QUIETER JOB SITES

The loud whir of equipment is a mainstay on any construction site, and it's too often a factor that limits when a contractor can work. That's because many cities have noise ordinances in place that only allow crews to run their equipment during certain hours of the day.

Electric auger boring machines are significantly quieter than their diesel-powered counterparts, allowing contractors to work longer on job sites, with less risk of violating ordinances.

This was the case for Swedish contractor Riggtech. The company needed to complete a 36-meter bore as part of a storm sewer installation in the city of Gothenburg, Sweden. Local laws required that construction crews keep noise levels down. Using an electric auger boring machine, Riggtech was able to complete the job while still meeting the city's noise ordinances.

GREATER VISIBILITY

One of the biggest benefits operators have with an electric auger boring machine is the ability to step off the machine and control it from somewhere else.

With wireless remote control, operators can get off the rig or even out of the pit to operate the machine. This can give them more freedom of movement and better visibility through all machine operations.

THE FUTURE IS ELECTRIC

From North America to Europe, early adopters of the industry's first available electric auger boring machines are discovering how the machines can reduce their jobsite emissions and improve their operations. Today, that can be a competitive differentiator in the marketplace. Tomorrow, it will be the table stakes for doing business.



American Augers Inc. manufactures underground construction equipment. The company provides auger boring machines, maxi-rig and mid-size directional drills, oil and gas drilling rigs, mud pump and cleaning systems as well as product tooling and accessories.
800-324-4930 | www.americanaugers.com

WORK WHEN—AND WHERE— YOUR COMPETITORS CAN'T.

Designed with an electric-driven motor, the 36/42-600E is emissions-free and significantly quieter than traditional auger boring machines—helping you work longer hours without violating noise ordinances. Perfect for steep angles and solid rock alike, it doesn't matter if you're turning at 2 rpm or 40, this machine allows you to adjust your torque and conquer any soil and every condition. Cut costs, increase efficiency, and be where the competition can't with the 36/42-600E Electric Auger Boring Machine.



ELECTRIC AUGER BORING MACHINE.
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Feature-Rich RAMVAC Vacuum Excavators Prioritize Easy Operation and Maintenance

Vacuum excavation is a safe and accurate method for locating underground utilities. At some point in the future, it may even become the standard on every job site. In today's market, contractors have a number of options to choose from, with power and efficiency being key when choosing the right unit for your application.

RAMVAC HX HYDROEXCAVATOR

With large capacity and great features, the RAMVAC HX hydroexcavator provides powerful vacuum and high-pressure water in a conventionally sized vacuum excavator.

RAMVAC's full-size hydroexcavator offers debris body sizes from 9 to 15 cubic yards, while the midsize truck delivers big vacuum power in a compact footprint with 3- and 6-cubic-yard debris body offerings.

HYDROEXCAVATOR FEATURES

On average, RAMVAC trucks offer an approximately 36-inch-shorter footprint and a payload capacity 2,500 pounds greater than similar trucks. The 8-inch vacuum system features a 4,400-5,400 cfm and 18- to 28-inch blower capacity, providing all the vacuum power needed for any horizontal directional drilling application.

The water system includes a 1,300-gallon water tank, 10 gpm at 2,500 psi water pump and 400,000 Btu water heater, all located inside an 80,000 Btu heated enclosure.

The directional discharge system allows operators the ability to off-load debris back into a container or back into the excavation site when a job is done — without the mess of dumping your tank. This system also features a reversible blower, allowing operators to blow any obstructions out of the dig hose while still staying in full operation.

Other features include a long-range wireless remote, NEMA 4 electrical system, 800,000 Btu water boiler, three-stage cyclonic filtration system, vacuum enhancer, hydrostatic blower drives and a 10-micron final filter. RAMVAC's Dig Deep boom carries powerful airflow while providing its operator with the ability to dig 10 feet below grade.

AX AIR EXCAVATOR

RAMVAC also offers its AX air excavator, which is mounted on a Class 6 chassis, making the AX a non-CDL vehicle. Due to its single-engine design, operators can excavate with both air and water, effectively requiring only one truck.

Additionally, all AX water systems are contained within a single heated enclosure for cold-weather application. This truck also provides the ability to pothole using a 4-inch port or perform major excavating using a 6-inch port.

RAMVAC offers a variety of blower capacities, including 18- to 28-inch Hg, 1,400 or 3,000 cfm. Standard payload capacities for the AX truck is 5,000 to 12,000 pounds. Its hydraulic rear door allows operators to dump spoils quickly and easily.



With such a powerful vacuum, the AX allows you to customize your blower to achieve the results you need in any application. The AX series also comes standard with RAMVAC's Dig Deep boom. From tool storage to operation controls, this air excavation truck is designed to make overall operation and maintenance simple.

OPERATION AND MAINTENANCE

RAMVAC equipment, like all Sewer Equipment products, are easy to operate and maintain. All major functions and maintenance points are accessed from ground level for increased operator safety.

Additionally, 12-volt electrical controls and manual hand valves allow for maintenance to be simple and any required troubleshooting to be done in the field. Due to the simple design, replacement parts are readily available at any standard hardware store and computer troubleshooting isn't required due to the use of standard electrical relays. RAMVAC was built with the contractor in mind.



RAMVAC Vacuum Excavators s manufactured by Sewer Equipment, a leading manufacturer of vacuum excavation and sewer cleaning equipment with a 75-year history. RAMVAC offers a complete lineup of hydroexcavators, air excavators, industrial air movers and catch basin trailers.

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Lightweight Rival Hydrovac Are Flush With Features

Rival Hydrovac — a Canadian based supplier of cost-effective, efficient and lightweight hydrovac vehicles — has grown quickly since 2016. A major factor in the rapid growth of Rival is increased awareness and enforcement of the loaded weights of some hydrovac units.

Rival is mindful of keeping the truck as easy to operate as possible. The company's tandem T7 trucks are just over 30 feet in total length. Both models come with Allison Automatic Transmissions. Rival utilizes high-performance components in an effort to provide a competitively performing unit with a smaller footprint and lighter weight.

The Rival T7 tandem was designed primarily to be a unit that could be loaded with debris and drive within legislated road limits with most types of debris on board. Additionally, 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. The company has recently added an optional air compressor to the T7. These air units also have the hydro features any other Rival truck would have. The compressor is a dual-pressure VANAIR unit, allowing a setting for tooling and another for air excavation.

The Rival T10 unit is the larger brother of the T7 unit. The T10 comes on three different chassis configurations, depending on the jurisdiction it will operate within. Rival is also offering the air package on this size unit. The T10 offers additional debris and water capacities. It has a larger boom and more blower.

MODERN FEATURES

Rival strives to continually add features to address customer needs as the company learns of challenges faced in the field. Auxiliary hydraulic outlets are available that will allow for the operation of hydraulic tools utilizing the system already on the truck. The real-time truck weights are displayed both in the cab of the truck and on the remote. The boom has a shut-off valve and the blower can be run in pressure or vacuum modes to allow for pressure off-loading into another truck or tank.

All Rival trucks are fully equipped to work in the winter, featuring cabinet heaters, heated valves and a purge/glycol system for the water pump and boiler.

Rival also has several important safety features, including a retractable railing atop the unit, D-ring tie-off locations, a grounding rod, traffic cones and an emergency shutdown system.



Rival includes just about everything you will need to go to work. These accessories include a poly dig tube with neoprene end, multiple dig tube extensions, all clamps, two wash wands with nozzles, dig wand extensions, a spare handheld remote and a wand for washing the vehicle and washing out the tank.

Rival units are distributed by Transwest Trucks in the United States and a Transwest sister company, Summit Truck Equipment in Canada. Transwest and Summit offer parts, service and training as required. Rentals and in-house financing are also available.



Rival Hydrovac develops trucks designed to address size and weight challenges in the hydrovac industry, allowing contractors and municipalities to fill the debris body with most materials and scale the truck legally. **403-550-7997 | www.rivalhydrovac.com**

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Break Down the Barrier of Entry With Rock Rental's Affordable Vacuum Excavators

The cost of new equipment is a barrier to entry for many contractors. That's something Rock Rental understands, as it offers a full fleet of rental and used equipment at affordable prices, available immediately. To ensure the equipment will fit your application, Rock Rental provides demonstrations of equipment prior to purchase.

VACUUM EXCAVATION EQUIPMENT

In order to meet the needs of its customers, Rock Rental offers a variety of vacuum excavator brands with different optional content. With both air excavators and hydroexcavators available, the application choice is your decision.

With hydroexcavator debris body sizes ranging from 3 to 15 cubic yards and vacuum systems from 4,400 to 5,400 cfm at 18 to 28 inches Hg, the company has the power to meet your specific needs.

Most hydroexcavators in the fleet offer 1,300 gallons of onboard water, and all water systems are contained within an 80,000 Btu heated enclosure to eliminate freezing. Optional content includes long-range wireless remote controls system, vacuum enhancer, hydrostatic blower drives, an upgraded 800,000 Btu water heater and directional discharge system. This system features a reversible blower, allowing operators to blow obstructions out of the vacuum hose while still staying fully operational.

Operators also have the ability to off-load debris into a container or back into the excavation site when the job is done. Many offer a Dig Deep boom for digging 10 feet below grade, NEMA 4 electrical system, hydrostatic blower drives and 10-micron final filter.

AIR EXCAVATORS

Rock Rental carries both CDL and non-CDL air excavators to meet the needs of any contractor. With vacuum power from 1,400 to 3,000 cfm at 18 to 28 inches Hg, the company's air excavation trucks also carry onboard water, should your application call for it.

Standard payload capacities range from 5,000 to 12,000 pounds, and a hydraulic-powered rear door allows operators to offload debris with ease. Rock Rental offers different hose sizes for different applications, including 4-inch systems available for potholing and 6-inch systems available for contractors doing major excavation.

NATIONWIDE SERVICE AND SUPPORT

Prior to delivery, every piece of equipment is thoroughly inspected and serviced by a team of certified mechanics to ensure machine reliability and safety. Factory-trained service technicians are available to perform maintenance or repairs on site at your location or at one of Rock Rental's certified service centers across the U.S.

Whether you need a short-term rental, a lease program or rent-to-purchase using a tiered-equity buyout, Rock Rental aims to meet each customer's individual financial needs. Rock Rental works with multiple nationally recognized finance institutions to find financing solutions quickly and get you into the equipment you need at a price you can afford.

Maintaining the nation's underground infrastructure is of key importance, not just in these uncertain times, but for future generations as well. This ever-present need for continuous repair and maintenance of underground utilities is why the demand for vacuum excavation services continues to rise.

Key competitive advantages for most contractors include the quality of the work performed and the price of services, which is tied into the efficiency and effectiveness of the equipment you are running. Rock Rental is dedicated to providing quality equipment and after-the-sale support.



Rock Rental, a Sewer Equipment company, is a trusted nationwide dealer of high-quality rental and used equipment. With a large fleet of sewer cleaning and vacuum excavation equipment and a network of service facilities across the United States, Rock Rental is dedicated to providing affordable solutions to meet the needs of any contractor. With equipment on-the-ground at locations throughout the United States, Rock Rental can provide daily, weekly and long-term rentals to meet your immediate needs.

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Headsets With Situational Awareness Keep You Alert and Protect Your Hearing

"Situational awareness" describes an alertness to what's happening around you and your environment so you're able to respond if there's a threat to yourself or others. More simply, keeping your head in the game keeps you safe.

Picture a flagger directing traffic in a busy work zone. Or a hydrovac driver's attempt to back up within a few feet of their operator. All of these jobs require focus and concentration to maintain safety.

WHY SITUATIONAL AWARENESS IS IMPORTANT

Avoiding a scenario that can lead to a struck-by or back-over incident may be as simple as hearing a vehicle's backup signal before it's too close, or a coworker hollering out for you to look up. Those are clear examples of the value of situational awareness — especially when you're focused on your own task. You're able to take action and maintain a safe distance. Add the challenges of extreme noise and bad sight lines and you have situations where knowing what's going on around you is absolutely essential to maintain a safe and productive job site.

ISOLATION IS THE ENEMY

We know occupational noise exposure is a problem and you must protect your hearing. However, traditional earplugs and earmuffs block out all noise. They don't distinguish between sounds that threaten your hearing, your coworker's raised voice, or an alarm beeping on a console. Everything is muted.

As a result, workers experience a sense of isolation when wearing earplugs or earmuffs. It makes them uneasy. So much so that they may refuse to wear hearing protection in order to stay in touch with their environment.

KEY FEATURES TO LOOK FOR

In-stereo listening — Two microphones, one on each ear dome, allows you to hear where sounds are coming from. Yes, hearing a backup alarm is



great, but knowing if it's coming from your right, left or from behind gives you better information allowing an intuitive response.

Awareness on demand — Being able to decide when to open up the external microphones or keep them off lets you bring in outside sounds when you're ready. Toggling the feature on or off with a quick, one-handed button press lets you keep working without having to stop, take the gear off and fumble around while you figure it out.

Fully adjustable volume — Since no two workers or work environments are the same, changeable volume levels lets you mix in the right amount of outside sounds that suit your situation.

You shouldn't have to compromise your safety or your long-term hearing ability just to have a conversation with your team. Situational awareness lets you take control of who and what you need to hear to improve your ability to stay alert and responsive.

Sonetics

Sonetics Corp. creates wireless communication solutions that enable natural conversation in challenging environments. Building on a platform of collaboration and rugged performance, the company's team communication systems deliver a productive, safe and enjoyable work experience.

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Learn how Listen-Through Technology improves jobsite safety for public works crews.

Introducing the Mud Dog 700

Mud Dog Vacuum Excavators are designed for operator convenience and consistent performance to meet the challenges of a wide variety of applications from compact, urban projects to large-scale excavation, potholing and trenching projects.

Mud Dog units come standard as a hydroexcavator with an optional air excavation package. The product line comes in a variety of model configurations, including the 700, 1200 and 1600. The new 700 model was designed to be a small, compact unit, suitable for urban environments. It features a 7-yard debris capacity and 600-gallon water tank capacity. This allows for a shorter turning radius and maximum legal payload.

VERSATILITY

With the Mud Dog, the operator can choose to dig with the best application for the job — water or air. Due to the precision and non-destructive nature of hydro and air excavation, debris can be removed without causing damage or destruction to the surrounding dig area. Hydroexcavation utilizes high-pressure water to break up solid materials and is effective in any soil condition, while air excavation utilizes compressed air to break up materials and is ideal for more sensitive debris removal applications where any sort of water introduction would be counterproductive or damaging.

The Mud Dog 700 is equipped with a rear mounted extendable, 8-inch diameter boom that reaches 18 feet, has 270-degree rotation and moves in a 10-degree downward pivot. This allows for versatility within dig areas so that units do not need to be readjusted and can be located away from an excavation point. This minimizes the impact and restoration on a job site and eliminates traffic congestion near roads. Additionally, units come standard with a boom light package enabling safe working conditions in dark environments.

EFFICIENCY

Units come standard with a variety of features to ensure efficient workflow and increase productivity. Mud Dogs operate using variable speed; the blower and water pump can be run at different speeds while operating. This enables operators to work as efficiently as possible on the job site by adjusting the speed for a specific function needed at the time. This also allows for fuel efficiency, so that users do not have to run full rotations per minute to vacuum up debris.



The 700 model has easily accessible storage for tubes and nozzles located at the rear of the unit. Operators do not need to spend a lot of time finding and attaching the necessary items to perform a job. There is also wheel chock storage tucked under the debris body and a safety cone rack for easy access while setting up at a job site.

SAFETY

Mud Dogs are equipped with various solutions to ensure operator safety on and off the job site. The 1200 and 1600 models come standard with a safe and efficient dumping solution: ejection unloading. Due to its smaller size, the 700 comes standard with a dump unloading system with the capability to dump into a 48-inch container while maintaining a low overhead height and a low center of gravity for increased stability.

Backup cameras and alarms are used to notify the entire crew that the unit is in motion. Additional safety solutions include a vacuum breaker, tailgate prop, emergency stop switches, and visual and audio alarms such as when the boom or the body is in an up position.

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Affordability Is Key for Easy-to-Use Mag 8 HDD Locating System

In the late 1980s, there were only a handful of individuals and manufacturers producing horizontal directional drilling equipment for the utility construction industry. One of those early companies was Straightline Mfg. and co-owner Mike Young.

Throughout the next decade, there would be several larger manufacturers throwing their hats in the ring. Today, these companies are the dominant players in the HDD drill rig industry. With the advancement of drill rigs through the last 30-plus years, there have also been several companies that produced the electronic guidance systems, which are vitally important to the success of the HDD industry. Without these HDD locators, there would be no “directional” in horizontal directional drilling.

For the last 25 years, there has for the most part been only two companies supplying HDD locators to the industry. These locators have become very advanced giving contractors the ability to log their bores, and within minutes of finishing the project, send that information directly to the home office. All these advancements now come with a big price tag. Early locators cost less than \$10,000, but today many locators sell for close to \$30,000. With only two manufacturers in the United States offering these systems, there has been little pressure to offer customers a less expensive product.

That, however, has changed in the last six years, says Mike Young, president of Underground Magnetics. Young, after 30 years in the HDD industry, owning and working for many of the well-known drill rig manufacturers and HDD guidance system producers, is still helping innovate new products for the HDD industry today. Underground Magnetics in 2019 introduced the new Mag 8 locating system which is simple to use, powerful around active interference and affordable. That combination is long overdue, says Young. Underground Magnetics — with a core group of three, who combined, have over 70 years’ experience in servicing, engineering and producing HDD locating equipment — is shocking the industry, says Young

NEW MAG 8 LOCATING SYSTEM

The new Mag 8 locating system was developed from the ground up to be simple, powerful and affordable. The UM group believed that the locators being offered, while very good systems, had become too expensive. Most of the contractors Young spoke with during the development of the Mag 8 felt they had no choice but to purchase more than they needed because there weren’t any other options. UM’s philosophy was to offer a commonsensical locator that was developed to be easy to use but powerful. Many of the first users of the Mag 8 expected a lesser locator because the price was so reasonable, according to Young, but the new Mag 8 has more than exceeded their expectations.

The system includes a 16-frequency transmitter that not only allows users to have depth and data ranges of over 150 feet, but also to work in and around rebar and wire mesh with sub-kHz frequencies all in one transmitter. The “drill to” function allowing contractors to set the locator out front and drill to it, has a distance of up to 100 feet. The simple part comes in once you start drilling, says Young. This is the simple powerful Mag 8 and Young believes it’s about time to give back to the industry.



Underground Magnetics is based in the U.S. with fresh ideas and designs backed by experience. The company is centered around a core team of industry experts who are dedicated to designing, producing and servicing locating systems in the industry.
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What to Consider When Choosing Between a Dual- or Single-Rod HDD

Dual-rod HDDs like the Vermeer D40x55DR S3 and D23x30DR S3 represent the latest technology for drilling rock. They use two independently controlled drill rods — one within the other — during operation. While drilling out the pilot bore, the outer rod provides rotation for steering while the inner rod supplies torque to a tri-cone or PDC drill bit.

“This powerful combination delivers optimal downhole cutting action and steerability,” says Tod Michael, business unit manager for Vermeer. “Its footprint is similar to a single-rod model, making it more compact than other rock drilling solutions.”

But is a dual-rod machine better than a single-rod machine? That depends on your operation. Consider these factors:

ROCK DENSITY

Michael says that HDD utility contractors who perform 50% or more of their bores in soft- to medium-density rock, up to 24,000 psi (165.5 MPa) compressive strength, should absolutely consider investing in a dual-rod HDD. If less than 25% of your work is in rock, a single-rod tooling setup — perhaps with an air hammer or rock bit, like the Vermeer Armor drilling system — may be more economical. If your operation falls somewhere in the middle, read on.

JOB SITE REQUIREMENTS

For most utility HDD work, a small footprint, quick setup and easy tear-down are essential to efficiency. “Dual-rod machines can often be transported on the same trailer as single-rod machines, are convenient to set up and don’t require extra space,” explains Michael.

OPERATOR CAPABILITIES

If your operator can run a single-rod machine, they should be able to become efficient at operating a dual-rod HDD. “Running an air hammer takes more training and talent,” Michael says. “In solid rock, they have to get the drill path right the first time. If ground conditions go from rock to clay or sand, they need to either change their tooling or understand how to work through it.” For operators who understand the finer points of drilling in rock, stepping up to a rock drill should be a fairly smooth transition.

OPERATIONAL COSTS

Dual-rod machines work in rock, clay, sand and loamy soils — and that versatility comes at higher upfront investment. With single-rod machines, you can use a rock bit or an air hammer, but over the long run, it may or may not be more cost efficient than the dual rod.

NEXT STEPS

“Every contractor’s situation is different, which is why it’s not always an easy decision,” Michael says. “If you’re not sure what’s right for you, talk to your local Vermeer dealer. They can tell you what other contractors in the area are using and even help estimate costs so you can make a more informed decision.”



Vermeer makes a real impact on the way important work gets done through the design, manufacture and support of high-quality industrial and agricultural equipment. The company’s 3,500-plus team members know customers rely on Vermeer to keep their businesses moving forward, and are committed to meeting customers’ needs with full service and support in more than 60 countries.

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Reduce GVW and Free Up Space With UNDERHOOD150 Air Compressors

The UNDERHOOD150 air compressor system is an innovative mobile air solution that reduces gross vehicle weight, frees up cargo space, and provides serious air power. UNDERHOOD150 compressors are mounted within the engine compartment of Ford and RAM trucks, providing 90 to 140 cfm of air on demand — depending on vehicle application and engine rotations per minute — without taking up an inch of deck or cargo space.

“The UNDERHOOD is a sleek solution that keeps trucks tidy and frees up to 80 cubic feet on your truck body,” says Mike Pettigrew, marketing manager at VMAC, the manufacturing company that designs, manufactures and assembles UNDERHOOD air compressors. “The untrained eye wouldn’t know you have an air compressor on board, let alone one that’s powerful enough to operate a jackhammer!”

The UNDERHOOD150 is a rotary screw air compressor that is suitable for operating large-size air tools like post-pounders, pavement breakers, rock drills and trenchless piercing tools. Therefore, it is a smart replacement for bulky underdeck, large utility-mount and tow-behind air compressors.

A LIGHTWEIGHT SOLUTION

At only 200 pounds, the UNDERHOOD150 is the lightest air compressor in its class, according to the maker. Fleet managers and operators who switch from a utility mount air compressor to the UNDERHOOD150 can reduce gross vehicle weight by 1,900 pounds, while those switching from shaft-driven underdeck systems cut their air compressor weight in half.

Operators can use these weight savings to add more tools and equipment to the truck, carry more materials, take advantage of better fuel economy, avoid payload problems, or even downsize truck classification.

“Smart fleet managers and owners can reduce their GVW and reap the benefits by simply choosing smarter air solutions,” Pettigrew says. “Why waste truck space and limit your payload potential when you don’t have to?”

UNDERHOOD DEVELOPMENT

Despite a lasting market demand for UNDERHOOD products, VMAC is the only company that makes this modern style of air compressor.

“VMAC first developed UNDERHOOD technology in the 1990s, and nobody has been able to replicate it in the years that followed,” Pettigrew says. “For example, it is always a challenge to create an air compressor that’s compact enough to fit within a truck’s engine compartment, but our team has done it every year because people love the UNDERHOOD.”

UNDERHOOD air compressors are fully designed, manufactured and assembled at VMAC’s facility. Each system is carefully engineered for specific truck models to ensure vehicle compatibility and ease of installation. In addition, the VMAC team works with OEMs to create new mounting kits each year as trucks get updated.

The UNDERHOOD150 is available for Ford F-250 to F-750 power stroke diesel and gas work trucks and RAM 3500 to 5500 Cummins diesel work trucks. For those who require less air, UNDERHOOD40 and UNDERHOOD70 air compressors are also available.



The UNDERHOOD40 provides 30 to 40 cfm, depending on vehicle application and engine rpm, and is compatible with numerous Ford, RAM and GMC/Chevrolet work trucks, as well as Ford, GMC/Chevrolet and Sprinter vans. Meanwhile, the UNDERHOOD70 generates up to 70 cfm and is designed for the most popular work trucks, including Ford, RAM, GMC/Chevrolet and International.

For more information on UNDERHOOD and UNDERHOOD150 air compressors, including full specs, visit www.vmacair.com/uh150.



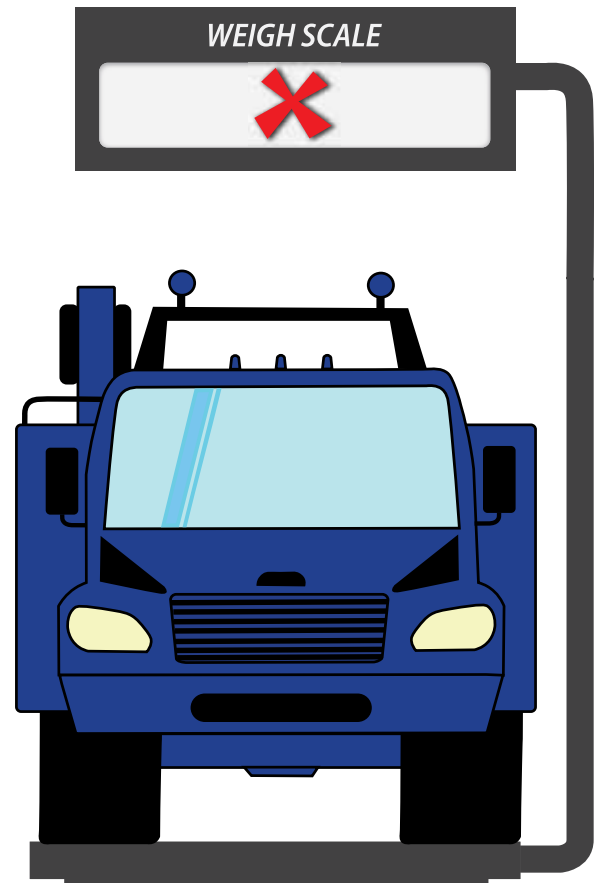
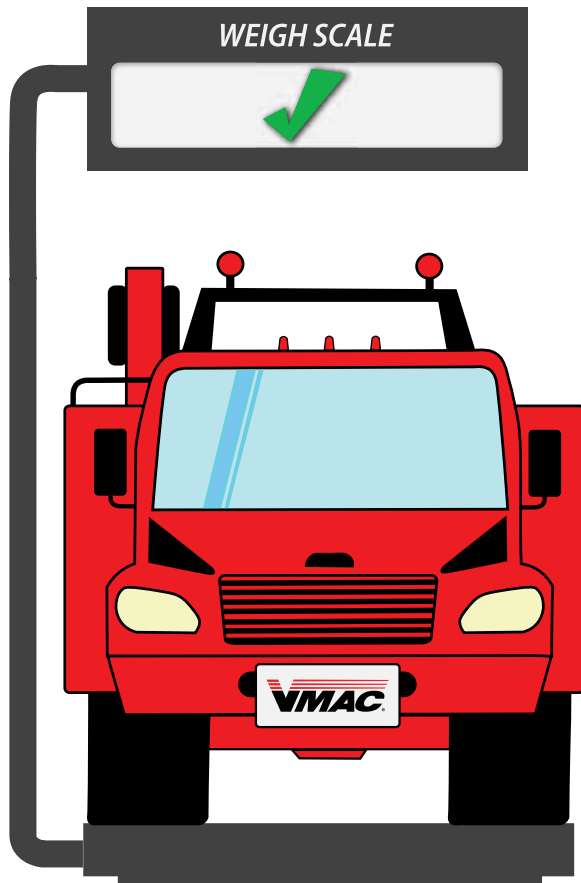
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**Zip Tube Designed
With Durability in Mind**

Milwaukee Rubber Products Inc. has announced it is now distributing the Zip Tube — a new hydroexcavation suction/water erosion nozzle engineered with a rugged build to withstand harsh environments.

The Zip Tube is built with a 0.100-inch wall, 6- or 8-inch Tuff Tube, and is equipped with an external stainless steel water ring containing 10 (6-inch) or 12 (8-inch) stainless steel replaceable jets that pulverize soil with water pressure. Soil is then removed by vacuum suction through the tube.

It's available with a Vector style 6- or 8-inch flange, and Super Products Bandlock or Aquatech connection options.

ENGINEERED FOR SAFETY

Features of the Zip Tube include an adjustable handle with a rubber bump stop inside the water ring. The bump stop protrudes forward to help safeguard the water ring jets against abrasion from rocks, debris and underground services.

There's also a rubber safety tube attached to the exterior of the water ring that helps control the spray of water and eroded material that can splatter during the hydroexcavation process.



Milwaukee Rubber Products Inc. has been in business more than 65 years and is based out of Menomonee Falls, Wisconsin. The company stocks and distributes hoses, couplings, valves, pumps, vacuum accessories and safety equipment. It also custom builds rubber parts to exact specification for its clients.

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How to Choose the Right Air Compressor

Many times choosing the right method of air compression is just as important as choosing the capacity (cfm) and pressure (psi). Think about it like this: Do you need continuous air like that used by jackhammers, piercing tools or any air tool running for longer than 20 minutes at a time, or do you need intermittent air like impact wrenches, drills or other short-duration tools?

“If you need continuous air, then you need a rotary screw-type compressor. If you need intermittent air, then you want a piston-type compressor,” says Chuck Hamilton, director of marketing for BOSS Industries.

WHAT’S THE DIFFERENCE?

A rotary screw compressor is air on-demand, meaning you have immediate, continuous air that can run for hours or even days. The bonus is that there’s no air reservoir needed. This design uses two rotating lobes that are in an oil-flooded system. The oil serves primarily three functions: It seals the tolerances between the lobes to create compression, helps lubricate the bearings on the rotors, and transfers the heat from compression to the cooler.

Meanwhile, a piston-type compressor (reciprocating compressor), uses the piston and rings to build pressure and fills an air reservoir. This requires a short pressure build time to fill the appropriate size air reservoir, but is ideal for on/off, short air-usage applications.

WHAT’S NEXT?

You need to define what cfm you need by what tools you will be using. “We recommend sizing your compressor to the rated specifications for your tools to ensure the life span and investment in your air tools,” says Hamilton. “Choosing the right type and size of an air compressor is just as important as choosing the right tool for the job.”

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BOSS Industries LLC was founded in 1988 and is a leader in PTO-driven rotary screw compressors, engine-driven rotary screw compressors and hydraulically driven rotary screw compressors. The company also has a wide selection of rotary screw air ends for OEM applications and also offers a range of piston air compressors. The company’s compressors are ideal for the utility truck and service truck industry. BOSS Industries is located in La Porte, Indiana, and operates across the world through its distributor network.
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Drill Defender: A New Level of Wear Protection



HDD contractors are gaining prolonged use of their starter rods, collars and drill bits by switching to Kondex Drill Defender components that use laser cladding tungsten carbide wear protection.

Thanks to its precise, robotically applied process and consistent thickness, Kondex laser cladding can protect areas that were previously left vulnerable. This wear protection is proving exceptionally valuable at the connection point of starter rods and collars, which traditionally draws heavy wear from recirculating debris. As shown in the image, Kondex protects the top perimeter and outer edge of the collar, as well as the starter rod reduction area where the collar sits to significantly reduce risk of breakage.

Laser cladding offers several advantages over hard face welding, including a greater density of tungsten carbides, no heat-affected zone to maintain structural integrity of the base material, and less porosity.

KONDEX

Kondex is a manufacturer of cutting and wear-resistant components. The company's products are currently in use on six continents.
920-269-4100 | info@kondexparts.com | www.kondexparts.com

THE LATEST: News

Vacuum Truck Rentals welcomes Jeff Mueller

Vacuum Truck Rentals welcomed Jeff Mueller as its corporate parts director. He will oversee the parts operations throughout the company's 16 nationwide locations. A native of Texas, Mueller began his career as a millwright in the industrial machine business before taking a maintenance superintendent position. He has also served in a senior general manager role and has opened multiple equipment branches.



Jeff Mueller

VARCo changes name, expands with new distribution center

Following exponential growth over the last several years, VARCo changed its name to VARCO Pro Supply and built a new 53,000-square-foot distribution center and flagship retail store to support its domestic and international customers. VARCO President Ron Selfe stated, "We remain focused on all aspects of the wastewater industry and are bullish on the growth of other categories such as plumbing, landscaping and asphalt paving as the economy continues to rebound."

The new retail store will be approximately 8,000 square feet and will offer a larger customer order pickup area, hydraulic bar where hoses can be custom-made on demand, larger product assortment, how-to demo area for professionals, robots to assist with remote orders, an outdoor demo area for trucks and equipment and other amenities to fuel up PROs, like snacks, coffee and gaming stations.

Super Products announces domain change

Super Products has moved its online presence to www.superproducts.com. The new domain will also affect the company email addresses, changing to the format @superproducts.com. All incoming emails will work if they are sent to

the old addresses, but updating to the new domain will ensure delivery after the old addresses are phased out. Old links and bookmarks will be automatically redirected.

Barbco promotes Schmidt to VP, business development

Barbco promoted Thomas W. Schmidt to the newly created position of vice president, business development. He previously held leadership positions in numerous local plants including Harrison Paint, Heinemann Saw Company and Georgia Pacific.

Trench Shoring opens new facility, adds bilingual classes to TSU

Trench Shoring Co. opened its 11th location in San Leandro, California. The company has 10 other ranches from San Diego to the Bay Area, plus a location in Las Vegas. The new San Leandro facility is central to the Bay Area, near Oakland Airport and close to all major freeways.

The company also announced it expanded its Trench Shoring University program with bilingual classes from its newest trainer, Fred Estrada. In the near future, Estrada will be offering Spanish-only training classes through TSU. Under the management of NAXSA-certified trainer, Greg Shreenan, TSU can be adapted for both online and remote learning in addition to in-person classes. ▼

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Easy Setup Makes RODDIE's R-8 Pipe Bursting Machine a Fast, Profitable Choice

John Gribble, one of the owners of Pronto Plumbing and Drain, recently offered some high praise for the RODDIE Underground R-8 pipe bursting machine. The company currently owns four of the machines and has the capabilities to replace water and sewer from 1-inch to 8-inch pipe.

"The R-8 has allowed us to scale our company to the next level," Gribble says. "The lightweight machine makes it easy to set up inside our customer's home, allowing for the best pull. There is no more setting the machine into a deep hole with an excavator, making the R-8 the fastest pipe bursting machine we have ever used."

Pronto Plumbing and Drain has performed pulls up to 600 feet in length and up to 8 inches in diameter. The company keeps the R-8 units in the lead installers' service vans so it's always ready when an emergency happens.

"When it comes to production, RODDIE Underground leads the way in trenchless technology," Gribble says. "We took on a 240,000 under-slab job in a retirement home last month that we finished in a little over a week by using multiple R-8 pipe bursting machines to help us minimize the amount of concrete needed to be removed. That made the job very profitable and productive. We intend on having six of them by the end of the year. When it comes to running a business, I would choose the 30-ton RODDIE Underground R-8 pipe bursting machine. Your employees will love you."



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THE LATEST: Products



2



3



1. Cat Pumps hydroexcavating pumps

Over 50 years of high-pressure pump manufacturing experience has earned Cat Pumps a reputation of producing the high-quality, long-lasting pumps in the markets it serves. With its dedication to zero-defect manufacturing, ease of service and availability from 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; and Model 3560 with 20 gpm at 4,000 psi or 25 gpm at 3,000 psi. **763-780-5440; www.catpumps.com**

2. MB Crusher MB-R800 drum cutter

The MB-R800 drum cutter is the second-largest in MB Crusher's range of drum cutters and is compatible with any brand of excavator. The MB-R800 drum cutter is perfect when prepping the job site and grinding or breaking hard materials. Thanks to the unit's twin-drive motor system, power is distributed to the side needing more power, allowing the unit to process the material evenly. The MB-R800 drum cutter is easily maintained as some maintenance can be done right on the job site. **855-622-7874; www.mbamerica.com**

3. Andax Industries Big Containment Pac spill kit

The Big Containment Pac from Andax Industries is a spill kit that fits in an 18-by-15-by-5-inch vacuum-sealed package that easily fits behind

truck seats or in other tight spaces. The Pac includes everything needed to respond to a spill up to 110 gallons including three 48-inch oil-selective Sorb Sox (mini-booms), 20 15-by-19-inch oil-selective absorbent pads, a disposal bag and tie, protective gloves, plus a 60-by-10-inch high pop-up containment pool with a carrying case and Co2 cylinder. In the event of a spill, the mini-booms and absorbent pads can be used to block off a storm drain or waterway while the inflatable pop-up pool can contain the bulk of the spill. The Big Containment Pac is a complete spill response system in one pilfer-proof package. **800-999-1358; www.bigcontainmentpac.com**

4. Ditch Witch MT26 microtrencher

The MT26 microtrencher from Ditch Witch helps operators create a clean, deep, narrow trench in one easy pass and easily install cable deep enough to meet most requirements with minimal disruption to the surrounding infrastructure. Designed with a standard hydraulic plunge to provide variable depth control, the MT26 can cut a clean trench from 1.5 inches up to 3 inches wide and down to 26 inches deep. Reaching depths of up to 26 inches allows contractors to install a typical 2-inch fiber or power cable line with the required 2 feet of ground cover all at the same time. Additionally, the ability to create a trench up to 3 inches wide helps simplify the trench cleaning process, especially when installing at deeper depths. The MT26 does this by vacuum excavating the spoils from the microtrencher simultaneously as the microtrencher cuts along the road. **580-336-4402; www.ditchwitch.com** ▼

This Issue's Feature: Updated tracked fusion machine gives operator more freedom

BY CRAIG MANDLI

Tracked fusion machines are often the choice for job sites fusing long pipelines. Self-propelled via rubber crawler tracks, these vehicles are designed to traverse rough terrain and steep grades, offering ease of maneuverability and freedom of movement.

McElroy recently released the **TracStar iSeries**, a platform for a new family of fusion machines that maintain the original TracStar's rugged, self-contained tracked vehicle while adding technology for an improved user experience. Mechanical, hydraulic, electrical and control systems have all been improved and integrated to meet job site demands with intelligent communication capabilities with the operator and within the machine.

"The iSeries is an evolution inspired by the feedback we have received from those on the front lines of fusion and implements the latest technology to create a superior user experience," says Geoff Koch, McElroy vice president of product development. "We believe this will move the fusible pipe industry forward in the water, mining and natural gas distribution sectors and all of the markets we serve that are seeking a long-term and reliable infrastructure solution."

The TracStar iSeries is powered by the FusionGuide Control System that offers three levels of control from operator-controlled to completely automatic, machine-controlled operations. These were implemented to reduce the most common user errors and to make the fusion experience more productive. The DataLogger 7 is completely integrated with the iSeries and the

enhanced guided workflow takes the operator deeper into the fusion process than ever before while ensuring that each fusion joint is recorded and complies with the fusion standard.

The TracStar 630i, 900i and 1200i cover three pipe size ranges from 8 to 48 inches, and all are equipped with a quiet engine that meets US Tier 4 and EU Stage V environmental regulations while providing greater torque. The system pressure was raised to more than 3,000 psi for more powerful ground drive, pipe lifts and other functions that use higher levels of pressure.

Hydraulic hard tubing replaces many of the hydraulic hoses, giving it a cleaner finish and approach to the unit while defined start/end points offer easier assembly and rebuilds. An improved cowl design gives the operator the ability to fuse a tee without removing the carriage from the vehicle. Updated safety features include a redesigned indexer with embedded sensors for collision avoidance to protect the heater, facer, jaws and carriage.

918-836-8611; www.mcelroy.com



TracStar iSeries
from McElroy

Happenings

CALENDAR

Sept. 13-15: Safety 2021 Professional Development Conference & Exposition, Austin Convention Center, Austin, Texas. Visit safety.assp.org.

Sept. 13-15: Breakthroughs in Tunneling Short Course, University of Denver – Joy Burns Center, Denver, Colorado. Visit tunnelingshortcourse.com.

Sept. 28-30: The Utility Expo (formerly International Construction & Utility Equipment Exposition), Kentucky Exposition Center, Louisville, Kentucky. Visit www.theutilityexpo.com.

Oct. 12-15: Common Ground Alliance (CGA) Excavation Safety Conference & Expo, Orange County Convention Center, Orlando, Florida. Visit www.cgaconference.com.

Oct. 16-20: 94th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), McCormick Place, Chicago. Visit www.weftec.org.

Oct. 19-21: Tunneling Association of Canada (TAC) 2020-One Toronto: Vision Underground, Hilton Toronto, Toronto, Ontario, Canada. Visit tac2020.ca.

Nov. 17-18: Pipeline Leadership Conference, The Embassy Suites The Woodlands/Hughes Landing, Houston, Texas. Visit plconference.com.

Jan. 23-28: Underground Contractors Association of Illinois Annual Convention, Pueblo Bonito Pacifica Golf & Spa Resort, Cabo San Lucas, Mexico. Visit www.uca.org.

Feb. 2-10: Ohio Contractors Association Annual Convention, Ritz-Carlton, Aruba. Visit www.ohiocontractors.org.

Feb. 4: National Utility Contractors Association (NUCA) of Iowa Annual Banquet and Leadership Seminar, Prairie Meadows Hotel and Casino, Altoona, Iowa. Visit www.nucaofiowa.com.

Feb. 11: National Utility Contractors Association (NUCA) of Nebraska Annual Conference, Cornhusker Marriott, Lincoln, Nebraska. Visit www.nucanebraska.com/annual-conference.

Feb. 21-24: Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, Indiana Convention Center, Indianapolis, Indiana. Visit www.wwettshow.com.

March 1-3: Global Excavation Safety Conference, Phoenix Convention Center, Phoenix, Arizona. Visit <https://globalexavationconference.com>.

March 2-5: National Utility Contractors Association (NUCA) Annual Convention & Exhibit, Naples Hyatt Regency Hill Country Resort & Spa, San Antonio, Texas. Visit www.nuca.com/convention.

March 24-26: Mid-America Trucking Show, Kentucky Expo Center, Louisville, Kentucky. Visit www.truckingshow.com.

March 31-April 1: National Heavy Equipment Show, International Centre, Mississauga, Ontario. Visit www.nhes.ca.

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- Yes No

When it comes to equipment and other purchasing decisions, what is your role?

- Not at all involved Somewhat involved Heavily involved Final decision maker

How many pieces of excavation equipment do you have in service?

- 1-3 4-5 6-7 8-9 10+

What is your annual equipment budget?

- \$1-50K \$51K-75K \$76K-150K \$151K-250K \$251K-350K \$350K+

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 Boring Pipe Bursting Utility Location/Leak Detection

Other _____

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