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HIP TO HIGH-TECH

AN ILLINOIS CONTRACTOR APPLIES NEW TOOLS
AND JUMPS INTO SOCIAL NETWORKING
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HIGH-PRESSURE WATERBLASTING AND INDUSTRIAL CLEANING

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- Profile: Mr. Rooter of Southeast Wisconsin, Frankville, Wis.
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Cleaner

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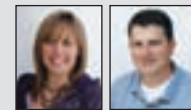
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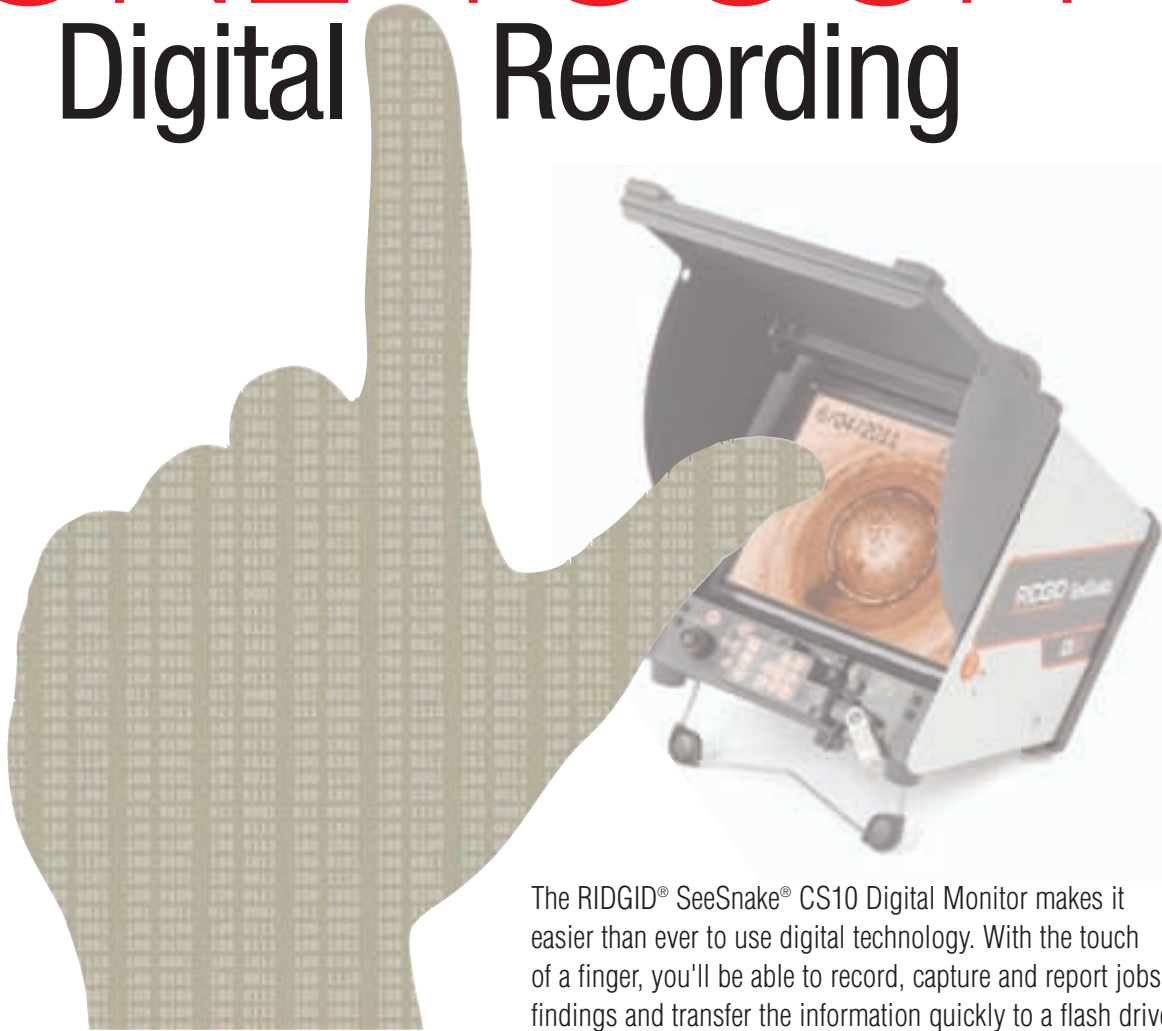
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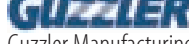


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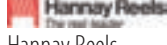
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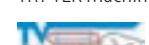


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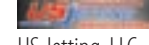
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Ted J. Rulseh

How Fast to Grow?

ONCE IN A WHILE, A COMPANY FACES THE CHALLENGE OF HAVING TO EXPAND EXPONENTIALLY. IS THAT A NICE PROBLEM TO HAVE? OR IS IT JUST A PROBLEM?

BY TED J. RULSEH, EDITOR

The story in this issue about Professional Drain Services should start any ambitious contractor thinking. What if you had the chance, as this Minnesota company did, to multiply the size of your business almost overnight?

Would you do it in search of the obvious rewards? Or would you defer in the face of the risks, or fear of the unknown? That of course depends on the owner's temperament and financial position, and on the nature of the opportunity.

Professional Drain was able to make the leap because it could show potential lenders a major, long-term contract that would support the investment in

purpose, because they're comfortable that way. There's nothing at all wrong with that – it's a personal choice.

Other owners operate on the principle of *carpe diem* – seize the day! Given a chance for explosive growth, they'd take it and never (they hope) look back. The key to growing quickly is (contradictory as this may sound) doing it without being hasty.

A business is like a building, with a foundation, walls, a roof, and all sorts of systems inside – mechanical, plumbing, electrical, cooling, heating, lighting. Shoddy workmanship in any area can mean the building doesn't function in a healthy way.

If you're going to grow quickly, you have to make sure someone –
you or one or more trusted managers – does the meticulous work of building.
Always plumb, level and square. Measure twice, cut once.

equipment and staff. So here, fast growth was a healthy decision.

On the other hand, companies have been known to grow themselves into near oblivion. Taking on large slugs of new business means gearing up and hiring quickly. And often, people hired in haste are not the best people – or they're put to work without proper training. Quality suffers. Customers become dissatisfied. Business spirals down.

TWO SIDES

In some cases, owners are just not mentally wired to run a large company. They're happier and maybe even more profitable staying small. The landscape is littered with contractors who once got big but then got small again on

Growing a business means taking time to put all the pieces and systems in place, step by methodical step. If you're going to grow quickly, you have to make sure someone – you or one or more trusted managers – does the meticulous work of building. Always plumb, level and square. Measure twice, cut once.

BUILDING IT RIGHT

You know the basic ingredients of building a business. Setting up systems. Hiring the right people. Training them in the technical and customer skills they need and in the company culture. Choosing the most suitable equipment. Buying it right and, if you're borrowing for it, structuring the loan to the best advantage. And much more.

As you read this month's article about Professional Drain, consider asking yourself: What would you do if an opportunity like theirs came knocking? Would you jump at it? Or shy away?

It's a question many business owners eventually face – not necessarily to grow at such a fast pace, but how much to grow? And how fast? And in what manner? Adding service lines? Building the existing customer base? Both?

Cleaner would like to hear about your experiences in dealing with growth. How have you met the challenge? Have you decided to grow or stay small? Why? Your insights could help others in the industry decide which path is best for them.

Send me a note with your perceptions to editor@cleaner.com. I promise to respond, and we'll report on some of the more interesting comments in a future issue. **C**

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Chris Jacobs, left, and owner Jake Saltzman use a Big Brute cart jetter from JETTERS NorthWest to clean a drain at a soap factory. (Photography by John Bonk)



HIP TO HIGH-TECH

AN ILLINOIS CONTRACTOR EMBRACES NEW TOOLS AND TECHNOLOGIES TO BOOST PRODUCTIVITY AND JUMPS INTO SOCIAL NETWORKING TO COMMUNICATE BETTER WITH CUSTOMERS
BY KEN WYSOCKY

profile

**FIRST RESPONSE SERVICE LLC
(DBA FIRST RESPONSE DRAIN SERVICE),
SANDWICH, ILL.**

OWNER: Jake Saltzman
FOUNDED: 2008
EMPLOYEES: 4
SPECIALTIES: Pipe lining, drain cleaning
SERVICE AREA: 50-mile radius
WEBSITE: www.firstresponsedrain.com



Just about everyone knows somebody real technophile – that guy who always has the newest cell phone, laptop computer, HDTV, or other gadget.

In the drain-cleaning world southwest of Chicago, that guy is Jake Saltzman, who embraces cutting-edge equipment and technology to improve productivity, provide better customer service, and cost-effectively market his company.

“We’re known as the technology leaders in our area,” says Saltzman, owner of First Response Service in Sandwich, Ill., which does business as First Response Drain Service. “It’s our claim to fame. No one else around here uses the technology we use.”

(continued)

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TOP: Chris Jacobs, left, and owner Jake Saltzman unload the Big Brute cart jetter. RIGHT: Owner Jake Saltzman, left, and his father, Jeff Saltzman, use a RIDGID SeeSnake camera and the LMK Technologies system on a lateral lining job.



The company periodically does new-product testing for manufacturers. “Technology makes the world go around,” says Saltzman. “You can either shy away from it and live in the Stone Age or embrace it and improve productivity – and make life that much easier.”

Whether investing in a trailer-mounted waterjetter and nozzles, using an online data storage and distribution system, promoting trenchless pipe lining or using Facebook to attract new business, Saltzman is all about kicking old methods and equipment to the curb in favor of more productive technologies and techniques.

“When I run into old-timers, they think I’m nuts,” says Saltzman, 33. “But it’s fun to think outside the box. We’re not afraid to try new things. If something doesn’t work, it doesn’t work, and if nothing else, we learn a lesson and move forward.” So far, things are working well: Gross sales have doubled since the business began three years ago.

DIVERSE BACKGROUND

Saltzman didn’t plan on becoming a drain cleaner. After high school, he worked doing interior and exterior concrete work. Tired of winter layoffs, he went to work for an uncle, who is a plumber. His career took one small but fortuitous detour – a brief stint as a territorial sales manager for drain-cleaning equipment manufacturer Spartan Tool.

of small drum cable machines from Spartan. Saltzman credits the annual Pump-er & Cleaner Environmental Expo for opening his eyes to a world of products and equipment. “It further underscored that there was some serious technology that could improve how we work in this industry,” he says. “After attending the show and educating myself, I went out and purchased equipment.”

JETTER JUMP-START

Saltzman’s first major purchase was an O’Brien 7030 trailer-mounted waterjetter (Hi-Vac Corp.) with a 700-gallon water tank, 600 feet of 3/4-inch hose, and a 3,000 psi/30 gpm pump. “We call it Zeus because it’s so big and powerful,” Saltzman says. “It has opened up new markets for us because we can do just about any

“Networking and social media are a big thing for me. We’ve been working with a social networking coach. I know it sounds weird and crazy, but it’s the ultimate network. There’s nothing better.”

Jake Saltzman

By selling equipment to and being in constant contact with drain cleaners, he saw the value of productivity-enhancing technology and the potential to make a nice living in a business niche for elite, technology-oriented service.

“When I was a plumber, I always enjoyed working on drains, and I realized there was a strong need for that in my area,” he recalls. “With the companies I used to work for, the best we could do was rod a drain and maybe camera a line, or dig up customers’ front lawns. I knew there had to be a better way.”

So Saltzman lit out on his own, equipped with a service van and a couple

cleaning that needs to be done. Once we used it to jet a 125-foot-long, 6-inch grease line, and there was no way we could do that with our old equipment.

“It’s got the same *oomph* as a lot of vacuum trucks. In fact, it’s one of the biggest trailer-mounted jettors on the market right now without going into a

(continued)





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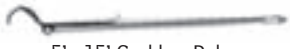
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The First Response Drain Service team includes, from the right, owner Jake Saltzman, his father Jeff Saltzman, employee Chris Jacobs, and Jake's wife Beka Saltzman.

truck. There were competitors in my area who have this kind of equipment, but they focus on business in Chicago. So in our immediate area, I'm the only cleaner who uses one."

Jetting business prompted Saltzman to hire a full-time employee. The unit brought so much business that taking on too much work became an issue. "There definitely was a learning curve," he recalls. "We had to adapt to and learn how to use the equipment."

Saltzman often invests in new nozzles for the jetter if they can help him enter a new market. For example, he recently bought a nozzle made by Enz USA that can descale an 8-inch boiler blowdown line at a local factory. Mineral deposits had clogged the line so badly that Saltzman couldn't get a camera through it, but the nozzle did the trick, descaling a 150-foot stretch of pipe in a day.

"To help me decide if a nozzle like that is a good investment, I try to remember other business opportunities I may have passed up because I didn't have that technology."

Jake Saltzman

"A couple of jobs like that will pay for the nozzle," he says. "To help me decide if a nozzle like that is a good investment, I try to remember other business opportunities I may have passed up because I didn't have that technology. And if there was no previous need for it, I try to gauge whether it will help open up another new market."

The company also owns three Spartan drain machines (a heavy-duty 1065 model; a medium-sized 300; and a lightweight 100); two RIDGID SeeSnake inspection systems; a RIDGID SR60 pipe and utility locator; and a Big Brute cart jetter made by JETTERS NorthWest, a division of Seattle Pump & Equipment (3,500 psi/8.5 gpm).

TRENCHLESS BECKONS

As his business grew, Saltzman repeatedly encountered customers with broken or collapsed laterals. He took to heart their complaints about expensive excavation work and embraced cured-in-place pipe (CIPP) lining. Just like the jetter, the investment in lining equipment from LMK Technologies wasn't cheap. "But boy, does it pay off," Saltzman notes. "Pipe lining increased our net profit by more than 30 percent per year. It's by far the most profitable thing we do."

The centerpiece of the lining process is a plastic bladder/felt liner – basically a long tube sock open on each end – which technicians saturate with a resin adhesive. They do that inside a wet-out trailer that is heated or air-conditioned, depending on the season. After the liner is saturated, crews roll it up and put it on a spindle inside an inversion tank, with one end sticking out of a nozzle.

"Then you cuff that end backwards onto the nozzle (on the inversion tank) and add air pressure, which inverts the liner inside-out as it enters the line, placing the wet side of the liner

against the walls of the pipe. It's sort of like blowing up a big circus balloon," Saltzman says.

The difficult part of relining is the time constraint. The resin cures in about three hours at ambient temperature, so crews have to hustle butt to get the liner in proper position. "It's kind of like pouring concrete in the summer," Saltzman

(continued)

DIGITAL CONNECTION

To communicate efficiently with customers and securely archive pipe inspection videos, Jake Saltzman, owner of First Response Drain Service, uses the RIDGIDConnect online subscription service from RIDGID.

For a monthly fee, Saltzman can store and easily organize videos, create and share inspection reports with customers from a job site, and integrate digital media into reports. It also creates a map database of customers and provides driving directions.

"My customers absolutely love it," Saltzman says. "We email them a link and a password, which allows them to log into an account and watch inspection videos and read an inspection report. It's the way of the future, the new way of doing things."

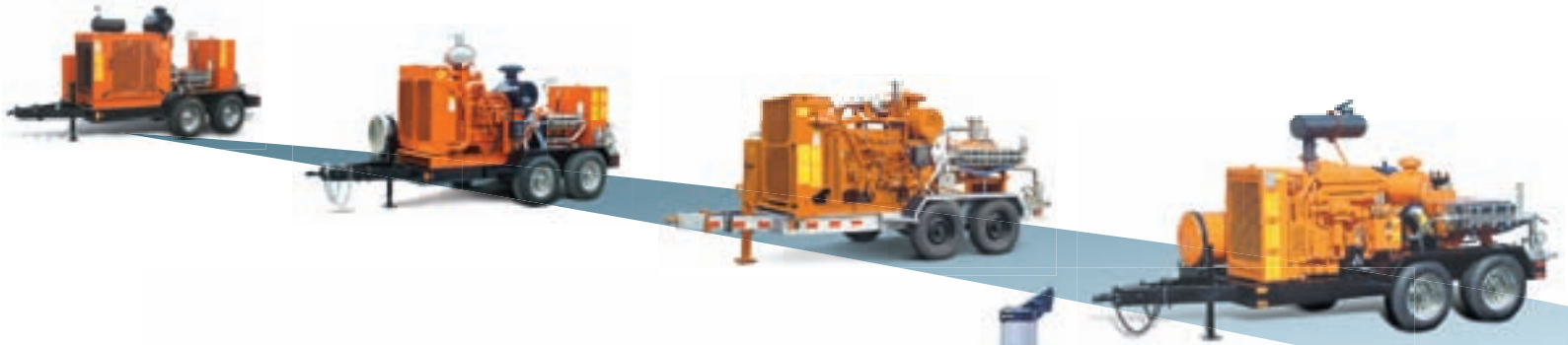
The service is particularly handy if he has to communicate a job situation quickly to a customer who works far from home or is out of town. "We can share information with them right from the job site in many cases, and they can give us their blessing to do work from wherever they're at," he says.

"It's a great way to communicate with property managers and landlords. Rather than ask them to drive out to a job site and review things, they can log in via their smartphone and view an inspection report and watch a video. It's amazing technology."

The technology allows him to integrate different types of digital media – PDF files, photos and video footage, for example – into reports. "It's made us much more productive because I don't have to go back to the office and compile reports at the end of the day," he says.

"I can't quantify it, but I know I spend much less time at the office after hours, putting reports together, printing things out, mailing things and so on. It speeds up the billing process, too, because we can invoice them right away by email. It also saves us money on postage and paper."

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Jeff and Jake Saltzman do preliminary work for a residential pipe lining job.

“When I run into old-timers, they think I’m nuts. But it’s fun to think outside the box. We’re not afraid to try new things.”

Jake Saltzman

says. “That’s why it’s important to have all your ducks in a row.”

Crews can line up to 125 feet of 6-inch pipe at a time. They mostly repair laterals or sewer main sections. It’s not a hard sell because it’s usually cheaper than excavating and replacing pipes, not to mention less disruptive and destructive.

“I enjoy lining more than anything else we do because it’s something that not everybody can do, and it gives you such fulfillment to help customers without completely destroying their property,” Saltzman says. “We can rehabilitate 60 years of damage in half a day, make a fair profit, and know we’ve provided a good service for a customer.”

SOCIAL MEDIA SHINES

To market his services, Saltzman relies in part on a distinctive logo he designed. The logo, which plays off the emergency “star of life” symbol with a plunger substituted for the snake and staff, is prominently displayed on his 2004 GMC Savana Pro Series service truck, a GMC Topkick service vehicle (a converted rescue vehicle), the jetter, and the 30-foot wet-out trailer. It also appears on the company website.

“I used the star of life symbol to emphasize that these are emergency vehicles, to let people know we can take care of bad situations,” says Saltzman. But his real marketing passion is social networking, particularly Facebook, which he finds more effective than the website in generating business.

The Facebook page is a great way to network with potential customers. As of February, his page had 121 fans – not a huge number, but good for “a little company out in the middle of nowhere.”

Saltzman observes, “Networking and social media are a big thing for me. We’ve been working with a social networking coach. I know it sounds weird and crazy, but it’s the ultimate network. There’s nothing better.

“If we do something unique, like when we recently did a sectional repair of a 21-inch sewer main, we can post a video of it on our page. We share different things with those 121 people, and they, in turn, can share it with others. We expect those numbers to continue to grow.”

Saltzman used the Facebook page to promote a First Response exhibit at the county fair last September, where the company did lining demonstrations. “We’re still getting phone calls from people who saw that exhibit,” he says.

Best of all, Facebook is free. And he believes it’s better than a website because it’s interactive. People can post reviews and comments, or Saltzman can start a discussion about, say, experiences with

sewer backups. That’s not possible with conventional advertising, like the Yellow Pages.

FUTURE IS HERE

“I don’t spend a whole lot of money on the Yellow Pages any more,” Saltzman says. “I’m putting all my chips on social marketing and media. To me, that’s where it’s at. I’d rather have people see us on a real level – see what we’re actually capable of doing, like lining installations, for example.

“It’s a great way to share what we do, and maybe down the line, they remember us the next time they have a problem. We’ve gotten job leads from it.”

Saltzman expects social media to become more and more pervasive in marketing. He sees many companies inviting consumers to follow them on Facebook or Twitter.

“These media help companies stay in touch and in tune with what their customer base is looking for,” Saltzman says. “If you can tap into it and understand what their needs are, you’re leaps and bounds ahead of your competition.” **c**

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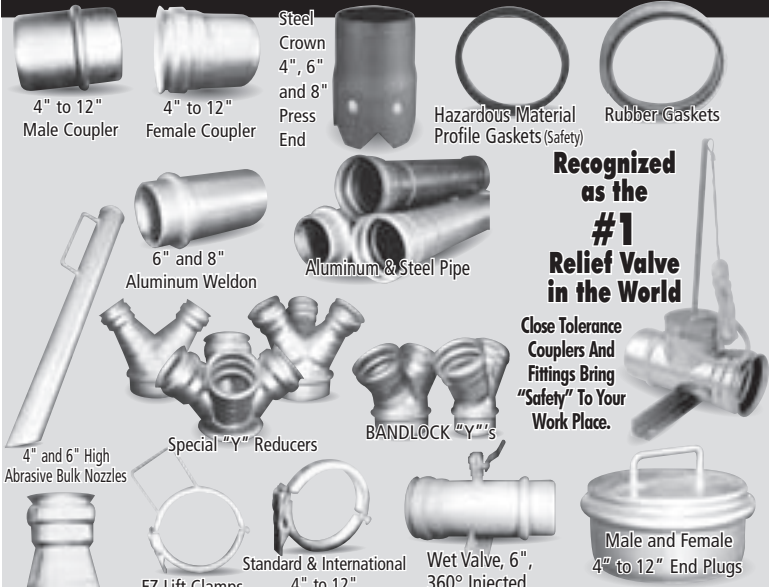
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Saving Sight

EYE PROTECTION TAKES SO LITTLE EFFORT – YET IT PREVENTS DISASTROUS OUTCOMES

BY TED J. RULSEH

Imagine the most beautiful sight you've ever seen. For me it might be my wife holding our first child, Sonya, hours after she was born. Or maybe the vista over Hidden Lake at Glacier National Park.

Bring your favorite picture up in memory. Now imagine never being able to see such a thing again. That could be the result of failing to take the proper precautions on the job to protect your vision.

The odds of something happening to your eyes may be small, but the consequences are great, and since the precautions are simple, there's no good reason to avoid taking them. Of course, as an owner or manager, you'll want to help protect your employees' vision, too.

The odds of something happening to your eyes may be small, but the consequences are great, and since the precautions are simple, there's no good reason to avoid taking them.

NOTHING CORNY

To that end, have you heard of the Wise Owl Program? It's a safety recognition program from Prevent Blindness America that promotes the consistent use of protective eyewear in workplaces.

Developed more than 50 years ago in response to a growing number of eye-related injuries on the job, Wise Owl has evolved to become one of the most recognized eye safety programs in the United States.

All right, maybe it sounds like just another corny safety campaign. But consider that each day, more than 2,000 workers suffer eye injuries, many serious. And that in its history, Wise Owl has recognized more than 86,000 people for having saved their sight by wearing approved protective eyewear.

Today, Wise Owl has more than 600 corporate, municipal and technical school chapters that recognize the importance of a proactive approach to pre-

venting workplace eye injuries. Prevent Blindness reports that protective eyewear can head off some 90 percent of workplace eye injuries.

GETTING INVOLVED

Wise Owl encourages chapters to promote eye safety by sharing education materials with employees and by recognizing people whose vision is saved by protective eyewear. Members pay an annual membership fee and receive an initial packet of informational brochures, fact sheets and safety posters, a quiz on workplace eye safety, and the Prevent Blindness quarterly newsletter.

Members also get a 10 percent discount on all Wise Owl educational

materials, a case study book detailing individual members' eye safety stories, and a chapter on membership certificate.

In addition, the kit also includes incident reports that business owners can submit to Prevent Blindness detailing how eye protection saved a person from injury. Upon receiving this report, the organization will send a certificate that a supervisor can present to the employee for being smart about eye safety.

CASE IN POINT

Have you ever had an eye saved by safety glasses or some other eyewear? Or have you seen someone else saved? I was working in a chemistry lab during my sophomore year of college when I heard a noise of breaking glass.

A woman student at the next bench had dropped and broken a flask of iodine solution, which had splashed up into her face – and onto the safety goggles she was wearing. Recognizing a teachable moment, the professor called everyone to attention, saying, "Here's a lesson for all of you. We would have had a case of eye surgery right here had these glasses not been on."

I hadn't been wearing mine. You can bet I wore them from that moment forward.

Recognizing employees is a great way to stress the importance of protective eyewear and to promote a culture of safety in the workplace. For more information on the Wise Owl program, visit www.preventblindness.org.

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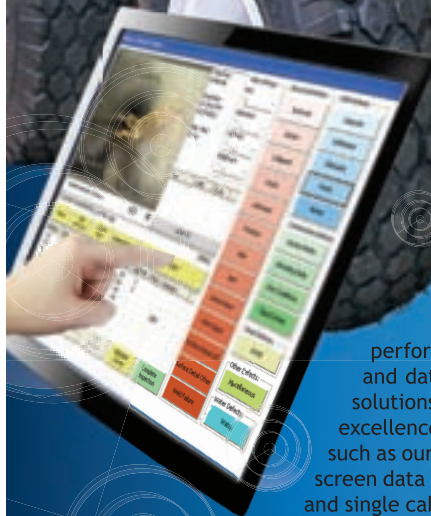
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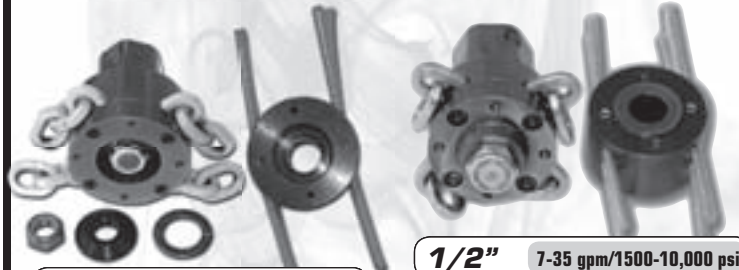
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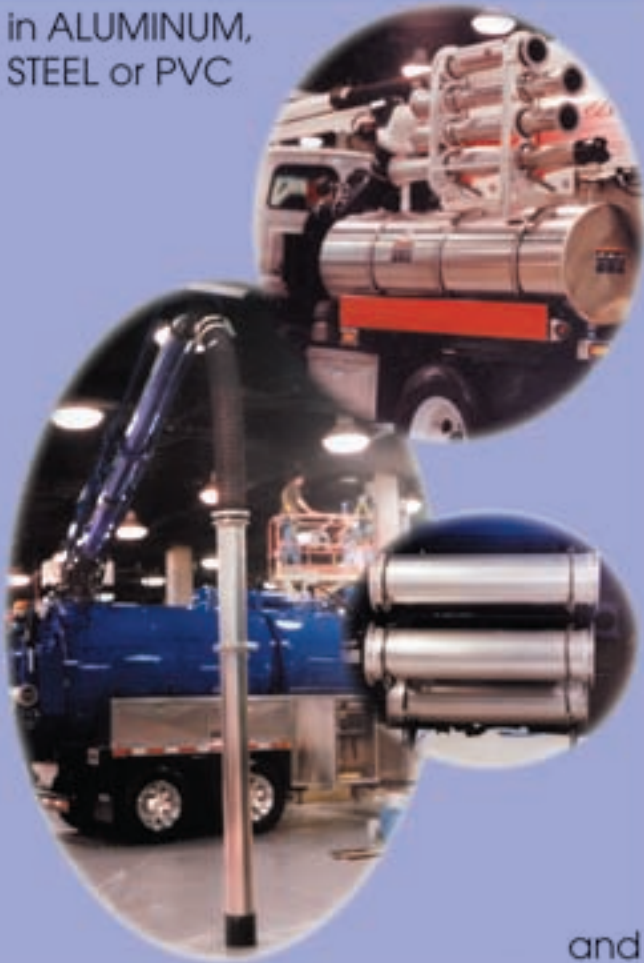
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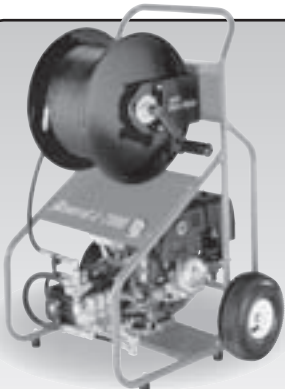
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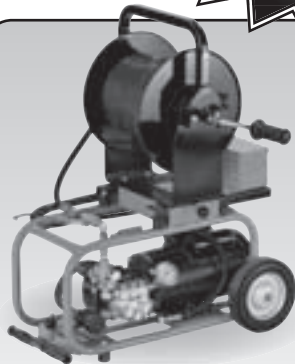
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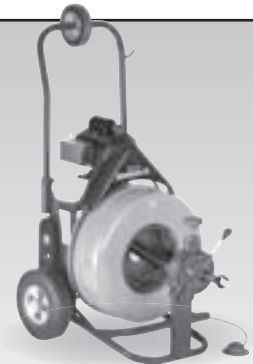
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BIG-TIME OPPORTUNITY KNOCKED, AND A MINNESOTA COMPANY ANSWERED WITH A MAJOR INVESTMENT IN NEW EQUIPMENT AND TECHNICIANS **BY MARIAN BOND**

Business **EXPLOSION**



Professional Drain grew rapidly after winning a contract with a major utility to inspect sewer lines for gas line crossbores. (Photography by Stephen Geffre)

When the chance came to expand and grow their 16-year-old company even in a tight economy, owners Steve and Brenda Lee of Professional Drain Services answered, “You betcha!”

The result has been an impressive increase in business and a staff grown to 35 from just six in less than a year. Despite a few growing pains, their future looks rosy, and early retirement is not in their plans. Indeed, they are expanding their services beyond their home base in the Twin Cities, and even into adjoining states. Steve says they would like to go nationwide.

The growth spurt came when Professional Drain, based in the St. Paul suburb of Lake Elmo, won part of a major contract with a local utility to inspect sewer lines for crossbores – gas lines installed by directional drilling that are accidentally cut through sewer laterals.

Bottom line, Professional Drain became one of several contractors performing the inspections on a total project expected to last at least three years. The contract set off “a rush to get things done,” Lee says. “Our company grew dramatically in a few months – 500 percent. We actually found a niche with the technology of lateral launch cameras. We were able to expand from a very small company to a mid-sized one. We are moving forward.”

(continued)

profile

PROFESSIONAL DRAIN SERVICES, INC., LAKE ELMO, MINN.

OWNERS:	Steve and Brenda Lee
YEARS IN BUSINESS:	16
MARKET AREA:	St. Paul, Minneapolis and adjoining cities
EMPLOYEES:	35
SPECIALTIES:	CCTV inspection, jetting, drain cleaning
WEBSITE:	www.professionaldrainservicesmn.com



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*Steve Johnson, Division Manager
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TOP PHOTO: The major utility contract meant investing heavily in equipment and quickly adding and training staff. BELOW: The work includes precisely locating and mapping lines. The utility contract enabled Professional Drain to expand while other contractors were struggling.

With its new equipment and capability, Professional Drain has grown its business through work for other municipalities and power companies and through subcontracting for other plumbing companies.

THE BIG BANG

Lee opened Professional Drain strictly as a sewer and drain business. Typically the firm had six employees and six service vehicles, and its offerings

“Our company grew dramatically in a few months – 500 percent. We actually found a niche with the technology of lateral launch cameras. We were able to expand from a very small company to a mid-sized one.”

Steve Lee

included basic cleaning, CCTV inspection and waterjetting for commercial and residential customers.

Circumstances and new technology, plus the right timing, enabled Professional Drain to expand rapidly at a time when the economy was in disarray and most competitors were cutting back, barely hanging in with current staff.

In early February 2010 in St. Paul, a contractor was called in to clear a stoppage in a lateral cut into a natural gas line that had been bored through the pipe. The break sent gas rushing into the home, causing an explosion that destroyed the structure. By good luck, no one was killed.

The fallout was that Xcel Energy, a major gas and electric utility serving Minnesota, began a lengthy process of inspecting sewers to make sure nothing of the kind would happen again.

Two weeks after the event, the Lees attended the Pumper & Cleaner Environmental Expo in Louisville, Ky., where they checked out inspection



equipment and made the contacts to ensure that their company would be positioned to bid successfully for the inspection work Xcel needed.

It meant a heavy investment, but also a chance to expand services and staff and substantially increase their business footprint. The Lees weren't about to miss the window of opportunity.

(continued)

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Owners Brenda and Steve Lee with their team at Professional Drain Services.

GEARING UP

After winning the contract with Xcel, Professional Drain had to gear up quickly, buying equipment, hiring and training technicians, setting up a corporate structure, and securing a proper garage, all while promoting the new capabilities to existing and new clients. The buildup took about five months. The biggest challenge was securing financing, and here the company's reputation and financial history cleared the way, Lee says.

The company's 2.5-acre home office property in the St. Paul suburb of Lake Elmo could not accommodate the new equipment fleet, so the Lees rented an 8,000-square-foot heated facility in nearby Oakdale. Recruiting new technicians wasn't difficult because unemployment in the area was high; traditional help-wanted ads did the trick. Lee wasn't necessarily looking for experienced hands, as he prefers to train to his own standards.

The management responsibility for the expanded company did not frighten Lee, since he had served for years as operations manager for his father's drain-cleaning business, A-1 Root Master, based in St. Paul, and recently sold to a franchise.

CRITICAL CAMERAS

The work for the Xcel Energy project uses lateral launch camera systems that enable inspection of laterals from the main. This enables lateral inspections that do not inconvenience homeowners.

DISTINCTIVELY WRAPPED

When Steve Lee opened his drain-cleaning business in 1994, he had "kind of a behind the scenes" operation, doing specialty work for other plumbing companies who did not have current technology and equipment. A lot has changed since then.

"We now want to be more self-sufficient," Lee says. To get the word out about added services in 2010, the company beefed up its telephone directory advertising substantially and has made a dramatic change in the appearance of the fleet.

Not wanting to stick with the traditional white service vans, Lee went to a black wrap with yellow and green lettering on the sides and flames across the front. The flames represent fast service and set the vehicles apart. Lee notes that people at times have mistaken a truck for a police SWAT team vehicle, and he sees that as a positive.

He likes to let residents know ahead of time, by letter, if the company will be doing a big project, so that people know why Professional Drain is in the neighborhood.



"We can train on the equipment. You can't train personality and how to be good with customers. I want all service technicians to see that they represent our company. It's their attitude and skill we depend on, and we want them to be the best."

Steve Lee

For lateral launch cameras, Lee looked to Aries Industries and CUES. From Aries distributor Flexible Pipe Tool, he secured two almost-new inspection vans, a 2009 Ford and a 2010 Chevrolet both equipped with Lateral Evaluation Telescoping System (LETS) cameras, which can inspect as far as 120 feet up a lateral.

Through ABM Equipment & Supply, Inc., a CUES dealer, Lee purchased three 2010 Lateral and Mainline Probe (LAMP I) camera systems. Two were installed on trailers and delivered quickly to give the company a head start on

the Xcel project. The third camera system went into a 1999 Ford van.

The company also added a 2004 Vac-Con combination truck on a Sterling Chassis with a 3,000 psi/50 gpm pump, 1,300-gallon water tank, and 12-cubic-yard debris tank; and a 1994 Vactor combination unit on a Ford chassis with a 2,000 psi/80 gpm water system, 1,300-gallon water tank, and a 15-cubic-yard debris tank. The firm now has a total of 20 service vans, including Ford, Chevrolet and Mercedes models from 2004 to 2009.

(continued)

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Professional Drain team members gather at the company shop before heading out to their job sites.

The vacuum trucks have recirculating water systems to keep the water from freezing in winter. The fleet also includes a 2,000 psi/25 gpm jetter and various equipment from Spartan Tool and MyTana Mfg. Co.

SINGLE FOCUS

The inspection project for the power company is strictly to determine whether any gas lines are intruding on laterals. Professional Drain submits findings by DVD and on hard drive along with any corresponding documentation to the client. If an inspection finds any intrusion, the power company notifies the proper authorities.

"We are not hired to check for anything else," Lee says. "In the process, we have to take care of roots that obstruct the inspection. For this, we use Spartan 1065 and 300 cable machines."

"It's a matter of keeping everyone trained and up to speed. We want anyone at any time to be able to do a job and not rely just on certain people."

Steve Lee

The new corporate structure has Steve and Brenda Lee at the head with an operations manager overseeing all projects and personnel. Frontline employees include project managers and technicians. Lee handles most training in-house. In hiring, he looks for the right personality, which includes a strong work ethic, and common sense.

"These are qualities we need," he says. "We can train on the equipment. You can't train personality and how to be good with customers. I want all service technicians to see that they represent our company. It's not me out there. It's their attitude and skill we depend on, and we want them to be the best. We even remind our technicians to knock politely on the front door of a home. Even that courtesy is important."

CROSS-TRAINING

Aries and CUES handled training on the camera equipment, each sending instructors to Professional Drain and providing some training at their own headquarters. The training is ongoing, and the technicians have learned how to rebuild the cameras and handle repairs. Also on the agenda is cross-training so that all technicians can adequately handle any equipment.

"When we started this project, we were run ragged, and now we are getting people moved around doing different kinds of camera work, plus the jetting and all facets of drain cleaning and of course CCTV," Lee says. "It's a matter of keeping everyone trained and up to speed. We want anyone at any time to be able to do a job and not rely just on certain people."

The rush of business did not end with the power company contract. The Lees have concentrated on promoting the company and gaining new customers, by methods they prefer not to specify for competitive reasons.



He and Brenda and some of the staff members spend at least half their time in business-building endeavors.

Lee says that in current economic times, it's important to have work lined up before signing on the dotted line to purchase equipment. "You don't want to tie yourself up financially unless you are confident in your future dealings," he says.

Lee appreciated being able to check out the lateral and mainline inspection technology and to televise the lateral lines without disturbing homeowners. "We realized that this was something the municipalities, sewer contractors, plumbing companies, power companies and our other clients would

find advantageous," he says.

His greatest reward was the opportunity to provide jobs for people at a time when so many were looking for work, while steering his small company into a broader base with more services. He continues to consider new technology and opportunities for expansion: The firm is looking into grouting, lining, and manhole rehabilitation.

"These are opportunities for us," Lee says. "The goal for our company is to always be upgrading and moving with the times. Something exciting is always coming out." **c**

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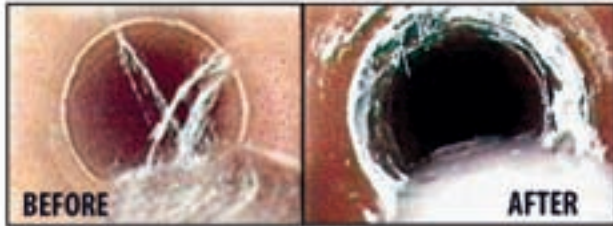
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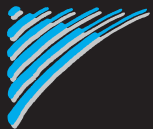
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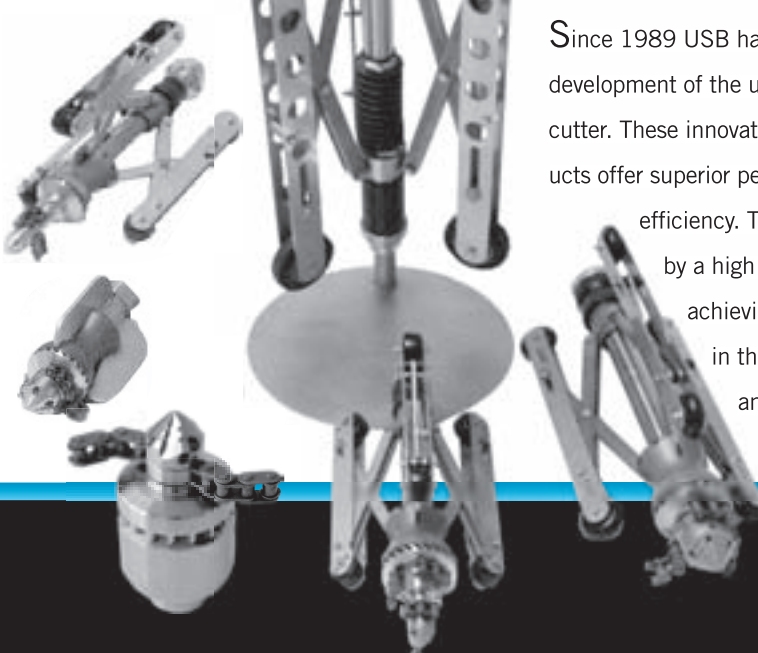
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Not Personal – Just Business

ATTENTION TO SEVERAL BASIC ISSUES CAN HELP YOU ENJOY THE BENEFITS OF A FAMILY BUSINESS WITHOUT THE POTENTIAL DESTRUCTIVE CONFLICTS

BY RHONDA R. SAVAGE, DDS

If you've ever been in business with a family member, you know there are several advantages, but even the most dedicated, hard-working family member can experience or create tension, stress and conflict in the company.

Can you really separate your family history, emotions and the knowledge you have of a person at a deeper level and still have a great working relationship? Families have successfully worked together, but there are reasons why it has worked.

blood," holds true, and yet too much caring can cause conflict.

One business owner employed his mother. The owner had established his vision and goals, but he had trouble developing a consistent, fair style of leadership. He found staff management was much harder than actually doing the work. His mother, in her eagerness to help him succeed, openly voiced her concerns and opinions during business hours and outside the office.

the morale of the business down.

TAKING WORK HOME

One business owner enjoyed working with his wife. His wife, however, was concerned that the team members weren't held accountable for their work. Because the owner was sensitive to conflict, he avoided team meetings, coaching and performance reviews. His wife was quite verbal during off hours about her feelings, and that caused him discomfort, as he was sensitive to criticism. This created tension in their relationship.

It's important, especially for couples to separate their work life and personal life. Bringing personal issues into the workplace, and visa versa, can create tension and an uncomfortable environment for all employees.

HIRING SOMEONE YOU CAN'T FIRE

Business owners can be hesitant to talk to a family member about a problem at the office because of how it might affect them on the personal and home front. They may walk on eggshells at work, worried about how the family member might respond if he or she were treated the same as other employees.

To be successful as a team member, family members need to know their role in the business. Being a family member and an employee can put anyone in a difficult position. Other employees, no matter how hard the family member works, may look at him or her differently. Because of this, the family member employee will need to hold himself or herself to the same or even a higher level of accountability than other employees.

UNFAIR PAY

Some business owners try to help their family out by paying more than the average wage for the job category. That can affect payroll overhead. It is unfair to neglect other team members' incomes because you want to give special treatment to a family member. You'll see resentment and unhappiness build if you do this.



What are the qualities that facilitate successful family working relationships? What are the common issues and practices that exist within companies that employ family? If you work with family members, awareness of several issues can prevent them from becoming problems in your business.

LOYALTY LEADING TO MICROMANAGEMENT

Often, family members are more dedicated to the success of the business than other staff members. The old saying, "Family is thicker than

She felt the office staff wasn't diligent enough in collecting money at the time of service and was inconsistent in processing methods. She felt they weren't doing a good job and needed more attention to detail. The boss had difficulty enforcing his policies because of the conflicting views between his mother and the other team members.

His mother became a micromanager, telling everyone how they should be doing their jobs, in detail. She meant well and only wanted to help the business succeed, but her micromanaging drove

The key to a successful employee/family relationship is that everyone in the office is treated the same. You need the same level (or higher) of accountability, timeliness and dedication to customer service from all of your employees, especially family members.

Remember, when morale goes down, productivity goes down. In addition to pay, gender difference or age differences that affect your relationship with your team may feel intensified with your family employees. Recognize that some conflict develops due to these differences and work at learning about better communication and leadership.

BEING PART OF THE TEAM

What are the traits of a great family team member? If you happen to be an employee in a family member's business, there are several things you can do to avoid the above issues. They include:

1. Be early.
2. Be dependable.
3. Pay attention to your work responsibilities; be accountable.
4. Follow through.
5. Be friendly and have fun.
6. Be encouraging. Use the words "Absolutely!" and "Certainly!"
7. Be a mentor.
8. Actively learn about the business; be excited about your industry.
9. Speak positively about the owner and the business, in and out of the office.
10. Offer advice when asked or ask first before discussing a concern.

ADDRESSING PROBLEMS

If family employees and your other employees just can't seem to get along, you must resolve the issue. If you don't, tension will build, morale will go down, and the business will suffer.

Most owners don't like to deal with these issues because it seems easier to brush them under the carpet. Yet talking about them is what you'll need to do if your business is to have the harmonious atmosphere your customers seek.

If you find your employees don't get along, you'll need to facilitate the discussion. There are two questions you can ask yourself that will help take the emotional side of the problem out of the equation:

1. Is whatever is happening in the best interest of customer care?
2. Is whatever is happening in the best interest of the health of the business?

A SUCCESSFUL FAMILY BUSINESS

The key to a successful employee/family relationship is that everyone in the office is treated the same. You need the same level (or higher)

of accountability, timeliness and dedication to customer service from all of your employees, especially family members.

Specifically outlining each employee's role and keeping personal issues out of the workplace will ensure a positive work environment for you and your family member. **c**

ABOUT THE AUTHOR Dr. Rhonda Savage is an internationally known speaker and CEO for a practice management and consulting business. She is a motivational speaker on leadership, women's issues and communication. Visit www.DentallManagementU.com or email Rhonda@MilesandAssociates.net.

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BY KEN WYSOCKY

Better customer service was Mike Hemenway's primary goal when he bought a 2010 Isuzu NRR jetting truck equipped with a 4018 waterjetter from US Jetting. The fact that the truck also boosted productivity, profitability and visibility for his company, A-1 Sewer and Drain, was icing on the cake.

"This truck is all about my customers," says Hemenway, president of the company that he established in 1994 in Norwalk in north central Ohio. "About 80 percent of our work is residential jet work, and our customers have come to expect that we jet the line because it cleans so thoroughly.

"Customers accustomed to cable cleanings every six months or a year have found that when we jet a line, they can go two or three years without another cleaning."

HANDY IN WINTER

The truck has a 14-foot insulated Kold King box body from Supreme Corp., a maneuverable cab-forward design, a retractable and articulating hose reel with 500 feet of 1/2-inch hose, a high-pressure jetter that generates 4,000 psi/18 gpm, and two 150-gallon water tanks.

"In situations where we need more water, we can take our drain machines out of the truck and slide in another 300-gallon plastic tank, which gives us a total of 600 gallons," Hemenway says. "We custom-made brackets to hold the tank in place, and it's easy to install and remove. We don't use that option very often, but it's nice to have that capability for jobs where water isn't readily available, or for bigger pipes that require a lot of water to clean."

money machines

OWNER:	A-1 Sewer and Drain Inc., Norwalk, Ohio
VEHICLE:	Truck-mounted waterjetter
FEATURES:	2010 Isuzu NRR cab-forward truck, insulated box body, 4018 waterjetter from US Jetting
EQUIPMENT:	Cable machines, portable jetter, push camera, lining system
COST:	\$110,000



The truck has a 14-foot insulated Kold King box body from Supreme Corp., a cab-forward design, a retractable and articulating hose reel with 500 feet of 1/2-inch hose, a high-pressure jetter that generates 4,000 psi/18 gpm, and two 150-gallon water tanks. (Photo courtesy of A-1 Sewer and Drain)

The truck body is actually a well-insulated refrigerated unit, but A-1 heats it instead. That comes in handy during Ohio winters. "We have another 4018 jetter that's trailer mounted," Hemenway says. "It's a great unit, but in winter, the road salt is hard on the paint and electrical components. It had an antifreeze package that works well, but it takes time to fill it with antifreeze and drain it. Sometimes on short trips, we'd just let it idle while we towed it so the water wouldn't freeze."

A jetter inside a heated box eliminates the antifreeze setup time. "Plus, it's like summer 365 days a year inside that truck," Hemenway says.

ADJUSTABLE FLOW

He cites the jetter's water bypass valve as a small feature with

major benefits. The valve allows him to reduce water flow to the nozzle, then use an auxiliary reel with a smaller 1/4-inch hose to jet out clogged residential kitchen or restaurant sinks.

“This truck is all about my customers. About 80 percent of our work is residential jet work, and our customers have come to expect that we jet the line because it cleans so thoroughly.”

Mike Hemenway

“The ability to reduce the flow allows me to use the truck as a mini-jetter, too,” he says. “It only takes a second to use the valve, and it makes us more productive because it eliminates the setup time involved with smaller sink jettors. The unit has a wireless remote control, so we can go to the truck and set up the flow and pressure we want, then go inside and turn the water on and off as needed with the push of a button.” The truck carries an array of portable equipment including:

- RIDGID K-7500 cable machine for 3- to 7-inch mainlines.
- RIDGID K-3800 machine for sink and other indoor drains.
- M755 cable machine with a no-tension cable from MyTana Mfg. Co., used to clean 3- to 4-inch lines.
- Kinetic Water Ram from General Pipe Cleaners.
- RIDGID SeeSnake inspection system.
- Trenchless pipe rehabilitation tools made by PrimeLine Products.
- US Jetting and StoneAge Warthog nozzles.

GENERATING INTEREST

The truck’s smooth, spacious side panels – which allow for bold lettering and graphics, including a customer-friendly 1-800-GOT-ROOTS telephone number – enhance the company’s marketing. “The number is easy for potential customers to remember,” Hemenway notes. “It makes the phone ring.”

The letters are reflective, so they really pop at night. That’s important in Ohio, where night comes early in winter, and for a company that routinely makes night service calls. “We work 24/7, so we want people to see the truck,” Hemenway says. “It definitely turns heads when it’s lit up like that at night.”

Overall, Hemenway can’t say enough about his latest business partner, which improves profit by enabling crews to do more work per day. But just as important, it benefits customers: “We can go in, do what we need to do quickly, and get out of our customers’ hair so they can get on with their day.”

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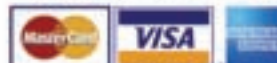
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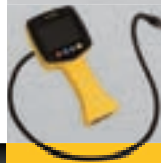
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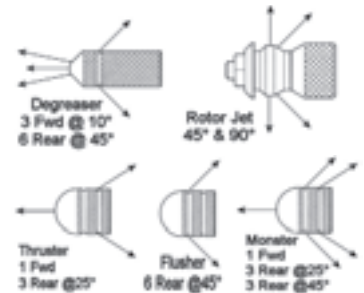


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Heart Care for CCTV

AS MARVELOUS AS PIPE INSPECTION EQUIPMENT CAN BE, IT WON'T PERFORM TO ITS FULL POTENTIAL WITHOUT WELL-MAINTAINED COMPUTING POWER BEHIND IT

BY JIM AANDERUD

If cameras and transporters are the backbone of pipeline inspection, then certainly computers are heart.

When we look at ads for inspection equipment, we see state-of-the-art cameras and transporters, but rarely a mention of computers. Yet, without today's computing technology, we could not do pipeline inspections to the standards we expect.

Computers have been used to conduct inspections since the late 1980s, but it wasn't until 2001, when video recordings transitioned from VHS tapes to digital, that computers took on their current role. Today's computers not only collect the inspection data but also record the video live, directly to the hard drive.

Computers are the true workhorses of the CCTV business – the amount of data they process each day is staggering. Recording video from four to six hours a day generates huge amounts of information. In fact, for every 1,000 feet of pipeline inspection, video files can take up two to three gigabytes of hard drive storage.

With so much information being pushed through these computers, we rarely stop to think about what those machines need. We continue to tax them day after day, until one day, at the most inopportune moment, they quit. We

yell at the computer and call it names, but the fact is that human negligence most likely caused the breakdown.

Here are a few basic maintenance steps to follow to make sure your computers will withstand the rigors of the job and keep your crews going, day after day.

NO HOME COMPUTER

Two things make CCTV inspection computers unique. First, they operate in unusual and diverse environments. Unlike desktop computers that are fixed to a home or office desk, CCTV computers mostly work on the road and are exposed to vibration, dirt and dust.

Two things make CCTV inspection computers unique. First, they operate in unusual and diverse environments, exposed to vibration, dirt and dust. Second, (they) work harder than most systems.

Second, CCTV computers work harder than most systems: They push more data in one day than most systems do in a month. As a result, hard drives fill to capacity very quickly.

These realities mean CCTV computers need a lot more attention.

Pipeline inspection computers require the newest technology possible. "You could run the current recording software with older machines, but the processing speed would be prohibitively slow," notes Jeremy Wagner, CEO at PipeLogix. "I suggest that you have the fastest speed and the most memory possible and record to the largest hard drives available."

You should upgrade these systems at least every three years to ensure that the recording software can operate at its maximum capacity. It is also important to make sure these computers are properly secured to the vehicle and do not move during travel. Because inspection vans sometimes traverse rough roads or terrain, problems can develop if the computers are loose.

Jake Zeigler, computer maintenance supervisor at Innerline Engineering, services a CCTV inspection computer system. (Photos courtesy of Jim Aanderud)





Sean Trammel, operations manager at Innerline Engineering, cleans out the interior of a CCTV inspection computer.

COMPUTER MAINTENANCE

Computers aren't designed to function without care – they need regular attention to operate efficiently. For CCTV inspection computers, regular maintenance is even more critical.

The person performing the maintenance must thoroughly understand computers. Inspection operators with minimal computer knowledge can often compound problems. If the inspection operator lacks the skills to maintain the computer properly, bring in someone who has that knowledge to help.

You must regularly and thoroughly follow basic maintenance procedures. Jake Zeigler, computer maintenance supervisor at Innerline Engineering, states, "Neglecting scheduled maintenance of the most basic procedures is the most common cause of computer crashes."

To begin with, update your software regularly. Microsoft Windows has periodic updates that ensure maximum performance. Java and Adobe Acrobat Reader also require regular updates, as do other programs, including recording software.

Because of the environments in which CCTV vehicles operate, dirt and dust can be a significant issue. Dust can be highly destructive when it attaches to internal electronics: It can create an insulation layer around the components and cause them to overheat. Overheated motherboards and processors will quickly fail, and the whole computer system will go down.

Dust can also cause problems when significant amounts accumulate on fan blades. When portions of dust fall off, they create a rotational imbalance that prematurely wears out the bushings and causes the fan to fail. Internal components then quickly overheat. Feeling and listening to a computer can help you detect unusual vibrations that indicate a coming fan failure.

To avoid these issues, remove the computer from the vehicle and clean it regularly. With the cover off, blow out the dirt and dust from the inside compartment, using canned air designed specifically for the purpose.

Hard drives require regular maintenance as well. Right-click on the drive and scroll down to Properties to open a tool menu. You can use these tools to make sure each hard drive runs as efficiently as possible.

The first visible tool is Disk Cleanup. This function removes accumulated clutter in a computer's files that tends to slow the machine down. It will eliminate deleted files, temporary files and old compressed files.

Under Tools lie two other important maintenance procedures. Check Disk performs an analysis of the hard drive and makes the necessary corrections. It will ensure that the hard drive continues to operate optimally. Disk Defrag helps the hard drive operate more efficiently, and that means a faster computer. Files on the hard drive become scattered over time, and defragging helps reorganize them in a logical manner, so that they can be retrieved more quickly.

BACKUP, BACKUP, BACKUP

Hard drives are the primary storage medium for CCTV inspection computers. As you perform inspections, the data is collected on the default drive (usually the C drive). Because videos take up so much storage space, these hard drives fill up quickly. You must offload the videos and data periodically to make room for new inspections. This means transferring the contents of the hard drive to an external hard drive.

Allowing a hard drive to fill up completely is a recipe for disaster. The likelihood of the drive crashing is extremely high the closer the drive gets to 100 percent full. It is an excellent idea to limit the amount of data a hard drive can take. You can do this with a tool called Quota. Right-click on the drive and go to Properties to find the Quota tab. It allows you to set the amount of data the drive can record. A setting of 80 percent is generally a good idea.

As we all know, hard drives can crash for various reasons or for no apparent reason at all. Just last year, my company lost 80,000 feet of videos when one of our hard drives crashed. Was it just bad luck? No, the loss was due to human error.

Did someone cause the hard drive to fail? No – the loss was due to the lack of a backup. In this case, we did not follow proper protocol because a suitable backup was not generated in a timely manner. Backing up data is critical and will save a lot of headaches and money.

External hard drives are cheap insurance. One- and two-terabyte hard drives have become so inexpensive that there is no excuse for not backing up data. The loss of just one hard drive with weeks of video inspections on it can be catastrophic. You need a procedure through which you back up data redundantly. One hard drive backup may not be sufficient. Consider a system with at least two backup drives, where one is stored off site in case of a fire.

MAKING A DIFFERENCE

Computers have been a terrific addition to the inspection industry, but they can also be a point of frustration. Put procedures in place to ensure that they operate properly.

Remember that the most important part of the CCTV inspection computer is the inspection operator. This person is the first line of defense against problems. A little computer know-how can go a long way and can make the difference between a good day and a bad day. **C**

ABOUT THE AUTHOR Jim Aanderud is owner of Innerline Engineering, a video pipeline inspection company based in Corona, Calif.

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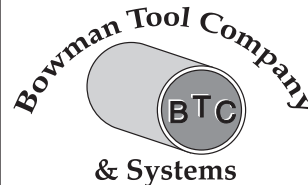
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An Alternative to Court

ARBITRATION CAN OFTEN HELP BUSINESSES SETTLE DISAGREEMENTS FASTER AND WITH LESS EXPENSE THAN FOR FILING A LAWSUIT

BY FRED S. STEINGOLD



Fred S. Steingold practices law in Ann Arbor, Mich. He is the author of Legal Guide for Starting and Running a Small Business and The Employer's Legal Handbook, published by Nolo. Legal strategies may vary depending on the state in which you live and the specifics of your situation. See your lawyer for legal advice.

In business circles, “See you in court!” is out. “Let’s arbitrate!” is in.

As the costs of lawsuits have climbed out of sight, business owners and managers have discovered that arbitration is generally a better deal. Usually, arbitration is cheaper and speedier than litigation – and it’s private. There’s no need to parade a business dispute before the public as happens in a court case.

Sooner or later, almost every business will run into a dispute that can’t be settled by negotiation. For example, a painter redecorates your facility and insists on full payment even though the job was poorly done and he spilled paint on the carpet.

Or maybe your landlord hasn’t installed improvements as promised in your lease. Or perhaps a customer to whom you sold a service is claiming her business lost money because your work was tardy or substandard.

Disputes such as these can be arbitrated. And in many cases, the business relationship can continue: Arbitration seems to create less rancor than litigation. If you decide that arbitration is the right choice, you and the other participants are free to decide on the procedures and the person who will arbitrate.

AGREEING TO ARBITRATE

Many businesses choose to arbitrate through the American Arbitration Association (AAA), a national organization with years of experience. You can do likewise by putting this wording in a business contract:

“Any controversy or claim arising out of or relating to this contract, or a breach of this contract, shall be settled by arbitration under the commercial arbitration rules of the American Arbitration Association. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction.”

The arbitrator’s ruling is binding. Except in extreme cases, such as those involving fraud, neither party can appeal the arbitrator’s decision. But you can go to court to enforce the decision, just as you would enforce a judgment given by a judge or jury.

So far, so good. But what if a dispute comes up and you haven’t already provided for arbitration? No problem. You and the other party can submit the dispute to arbitration by signing a clause such as: “We agree to submit the following controversy to arbitration under the commercial arbitration rules of the American Arbitration Association.” You then go on to briefly describe the dispute.

STARTING THE ARBITRATION

What next? If you’ve agreed to use the AAA, you file one of two forms that organization provides: a Demand for Arbitration, or a Submission to Dispute Resolution. These are simple, one-page forms. The second requires both parties’ signatures.

The AAA will send each party a list of proposed arbitrators, including

biographical info on each one. The AAA compiles its short list from a panel of more than 50,000 arbitrators with backgrounds in many industries, trades and professions. You and the other party each have 10 days to study the list, strike any names you object to, and number the remaining names in your order of preference.

The AAA administrators then look for a mutually acceptable name. If you and the other party can’t agree, the AAA will choose an arbitrator – one neither side has rejected.

PREPARING FOR THE HEARING

The arbitrator will make an award based on facts and exhibits presented at a hearing, so prepare carefully. Assemble the papers you’ll need at the hearing, making photocopies for the arbitrator and the other party. If crucial documents are in the hands of the other party, ask that they be brought to the hearing. In some states, the arbitrator or a party can subpoena documents and witnesses.

Interview your witnesses. Make sure they understand what the dispute is about and know their role at the hearing. Make a written summary of what each witness will prove. This will help you make sure nothing has been overlooked. Study the case from the other side’s point of view. Be prepared to answer the opposition’s evidence. If a lawyer will represent you, notify the AAA and the other side.

PRESENTING YOUR CASE

Arbitration hearings are less formal than court trials. Arbitrators don’t have to follow strict rules of evidence. The direct testimony of witnesses is usually more persuasive than hearsay evidence. To present your case effectively:

1. Make an opening statement that briefly describes the controversy and tells what you’re going to prove.

Arbitration hearings are less formal than court trials. Arbitrators don’t have to follow strict rules of evidence. The direct testimony of witnesses is usually more persuasive than hearsay evidence.

2. Explain what you’re asking for. Do you want money awarded to you? If so, how much? Or are you asking that a bill that was sent to you be voided? Be specific.

3. Introduce your witnesses and documents, and be prepared to cross-examine witnesses on the other side.

4. Summarize your case in a closing statement and show how you have refuted the arguments of the opposition.

Arbitrators are human, so courtesy and cooperation do count. Exaggeration and concealing facts, on the other hand, can hurt you.

THE AWARD

Within a few weeks of the hearing, the arbitrator gives a written award, usually on a single sheet of paper. Typically, the party who owes money will pay promptly or work out a payment plan with the other side. But the winning party can have the award turned into a legal judgment and take collection action, such as garnishment of bank accounts.

Keep in mind too, that many business disputes are resolved by mediation, which is non-binding. A neutral mediator tries to bring the parties to a voluntary settlement. Mediation can be even faster and less costly than arbitration. c

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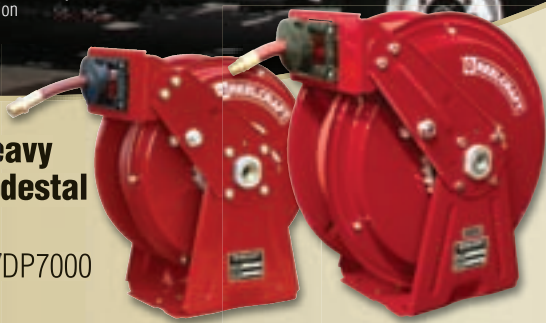
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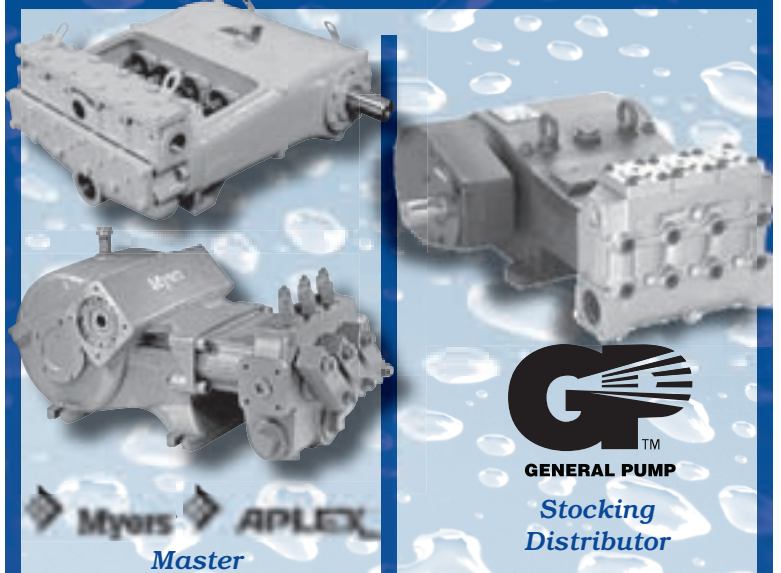
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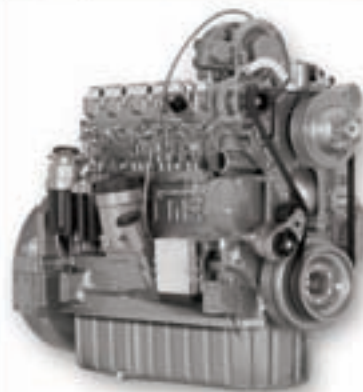
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Third Time's the Charm

A CONTRACTOR COMPLETES A DIFFICULT DIRECTIONAL BORE FOR A NEW SEWER LINE THROUGH CHALLENGING GEORGIA ROCK USING A LASER-GUIDED BORING SYSTEM

BY RANDY HAPPEL

It took a contractor receptive to innovation, a good deal of patience and a lot of determination to conquer a pesky 800-foot stretch of tough Georgia blue granite on a sewer installation project.

Coweta County Water and Sewer Authority put its faith in DeKalb Pipeline Company to emerge victorious after two previous contractors failed the task using drills and air hammers.

The DeKalb firm found the solution in a pit-launched laser-guided boring system, designed to achieve pinpoint on-grade accuracy while eliminating some of the difficult steps involved in other installation techniques.

The contractor completed the installation in two 400-foot bores radiating out from a pit at the site of a manhole at the center of the run. The bore took five days as the drill encountered extremely difficult rock conditions, but the project came off successfully as new 10-inch HDPE pipe was pulled through the bore.

The AXIS system can install a wide range of product on grade with a range of materials and diameters and can maintain grades of less than 0.5 percent. (Photos courtesy of Vermeer Corp.)



ROUGH GOING

Even with rock formations that in many places measured as high as 30,000 psi, the county's sewer expansion project would have been complicated. The entire project involved installing a new sewer for the town of Newnan, a historic assembly of 27,000, about 40 miles southwest of Atlanta. The authority had approved the sewer expansion to accommodate growth.

The plan had three components:

- An 8-inch force main of about 7,000 feet to a pump station.
- A 3,500-foot stretch of 10-inch gravity sewer.
- Another 8-inch force main covering nearly 8,000 feet to be backed up with a second lift station.

The nearly 3-mile-long route was to parallel the busy four-lane Georgia Highway to provide sewer service for two large commercial development projects.

tough job

PROJECT: Install sewer in a tough 800-foot-long stretch of granite

CUSTOMER: Coweta County (Ga.) Water and Sewer Authority

CONTRACTOR: DeKalb Pipeline Company, Conyers, Ga.

EQUIPMENT: AXIS laser-guided boring system, Vermeer Corp.

RESULTS: New sewer line installed successfully

DeKalb Pipeline, based in Conyers, won the job in an open bid process. Founded in 1960 and in its second generation of family ownership, the firm had built the infrastructure of many communities in DeKalb County and owned a reputation as one of northern Georgia's premier grading and site utilities contractors. James King, president and operations manager, ranked the Newnan project as among the company's most challenging.

"Our bid was based on everything being open-cut except some of the driveways, intersections, roads and surface obstacles," King says. "But once we staked out the gravity line, we realized there was an area where a day care facility, dentist office and some overhead utility lines would make it difficult to open a conventional jack-and-bore pit on either side of the driveways. We also suspected there would be some rocks in that area, so to jack and bore the gravity line in that one little stretch was a concern."

CHANGE OF PLANS

Foreseeing problems with the plan as bid for that 800-foot gravity stretch and the other highly landscaped areas, King and crew looked for an alternative approach while completing the force main and the gravity sections where open-cut was still doable.

The installation plan had three components, an 8-inch force main of 7,000 feet to a pump station, followed by a 3,500-foot stretch of 10-inch gravity sewer, and a run of 8-inch force main covering nearly 8,000 feet.

“We discussed the possibility of using a directional drill on both the force main and on the stretch of gravity sewer in front of the day care and dentist office,” King says. The firm secured the necessary change orders and identified a subcontractor to complete the 800-foot section using horizontal directional drilling (HDD).

“This eliminated the need to open up 16-foot-deep, 10-foot-wide, 30-foot-long conventional bore pits in the areas that abutted the parking lot and drive-ways,” King says.

The next task was to review the installation plan and make adjustments based on the change to HDD. The new design included two 400-foot runs to install the 10-inch gravity line through the area, using an established manhole as an entry and exit point. DeKalb selected two HDD subcontractors; one for the two 400-foot gravity shots and another for about 2,800 linear feet of force main along other portions of the project.

The first 400-foot bore appeared to go according to plan. With the first segment installed successfully and the 10-inch HDPE pipe in place, work began on segment two. This bore required the drill to be repositioned in the opposite direction en route to the downstream manhole. That’s when things turned for the worse.

“The density of this rock formation was much greater than any of us had imagined. The bore likely would have taken less than five days had the rock not created so much havoc. Once we installed the right cutter head, the system performed beautifully.”

Jim King

“After about 30 feet into the gravity bore, the HDD subcontractor began to encounter some serious rock,” King says. “After pulling back and several attempts to get through the rock, they determined the drill didn’t have enough power and wasn’t strong enough. We lost about three to four weeks while the subcontractor tried to devise a solution, and were up against some time completion issues. Something needed to be done.”

Meanwhile, the contractor hired to complete the force main line portion recommended another HDD contractor who had a bigger machine with more power. That firm completed the rock-laden section in three weeks, only to discover another setback.

“When we dug down at the middle manhole location to connect the two bores and set the precast manhole, the elevation of the second bore was one foot too high and didn’t allow for the flow of the sewer line,” King says. “To further complicate things, we discovered that the first bore, while on grade, would not pass a lamp test required by the engineer. This rendered the first bore useless as well.”

TECHNOLOGY TO THE RESCUE

“There’s no way to retrieve the pipe that had been installed in either of the tunnels, and the contractor had literally fled the scene,” says King. “So we abandoned both lines with grout and went back to the drawing board.” The subcontractor who attempted the first portion of the 800-foot gravity line suggested contacting the Vermeer Southeast dealership for assistance.

“We looped back with the Vermeer dealer to talk about the possibility that the AXIS guided boring system may be a possible option,” King recalls. “The challenge was that doing a 400-foot run in two opposite directions on line and



at a grade of 0.8 percent did not allow for any mistakes. It still seemed like a gamble to me, but at this point, doing something was better than doing nothing at all.”

A major concern was the 10-inch HDPE already in place: The AXIS system would be more likely to succeed boring through virgin material. DeKalb therefore sought the blessing of the project engineer to move the middle manhole about eight feet to change the angle just enough to avoid drilling in the direct path of the failed bore.

The AXIS boring system, developed by Vermeer, can install a pipe with a range of materials and diameters at any grade. It is designed to install 10- to 14-inch pipe in lengths up to 350 feet and can maintain grades of less than 0.5 percent. Basic components include power pack, rack, vacuum pump and storage tank. The system can maintain a strict accuracy tolerance and is also flexible.

GETTING TO IT

A pit was constructed at the site of the middle manhole, and the AXIS system was placed into it. From there, the team bored through soil to the upstream manhole and hit it on center. The entire process from setup to completion of the bore was accomplished in only three days.

The system was rotated 180 degrees, and the second 400-foot shot to the downstream manhole began. Rock sample tests indicated the rock along this bore registered at 25,000 psi, and it was difficult to bore. Drilling at a depth of 14 feet, the team hit rock at about 40 feet into the bore and had to retool at 150 feet with a cutter head better able to handle the difficult rock.

“The density of this rock formation was much greater than any of us had imagined,” King says. “The bore likely would have taken less than five days had the rock not created so much havoc. Once we installed the right cutter head, the system performed beautifully.”

Once the bore was completed, the 10-inch HDPE was pulled through the less-than-1-percent-grade bore, and the two sewer lines were connected using solid sleeves. The entire sewer extension was then complete.

“From beginning to end, this was one of those really, really tough jobs,” King says. “And despite all the frustrations, challenges and uncertainty, I was 100 percent pleased with the AXIS system. I don’t know of any other system that would have been able to deal with the rock as hard as it was, and to complete the bore on line and on grade. After two failed attempts by another contractor, Vermeer and AXIS helped salvage the entire project.”

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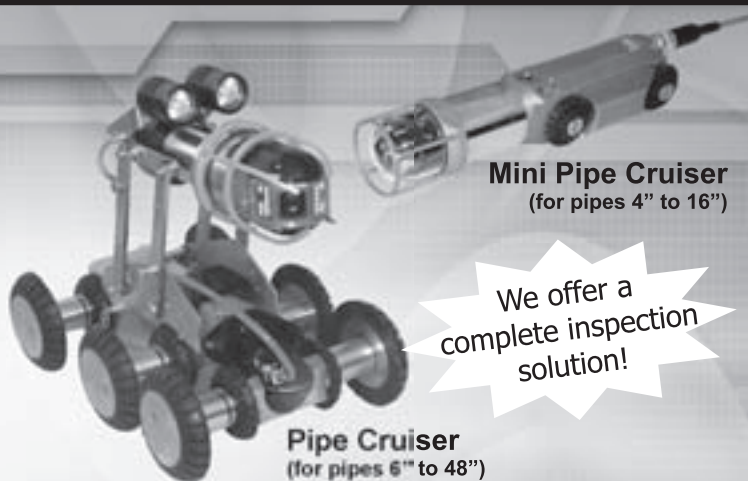


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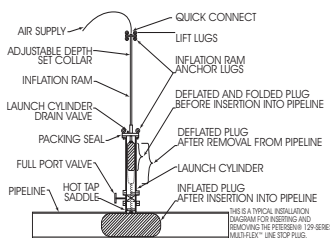
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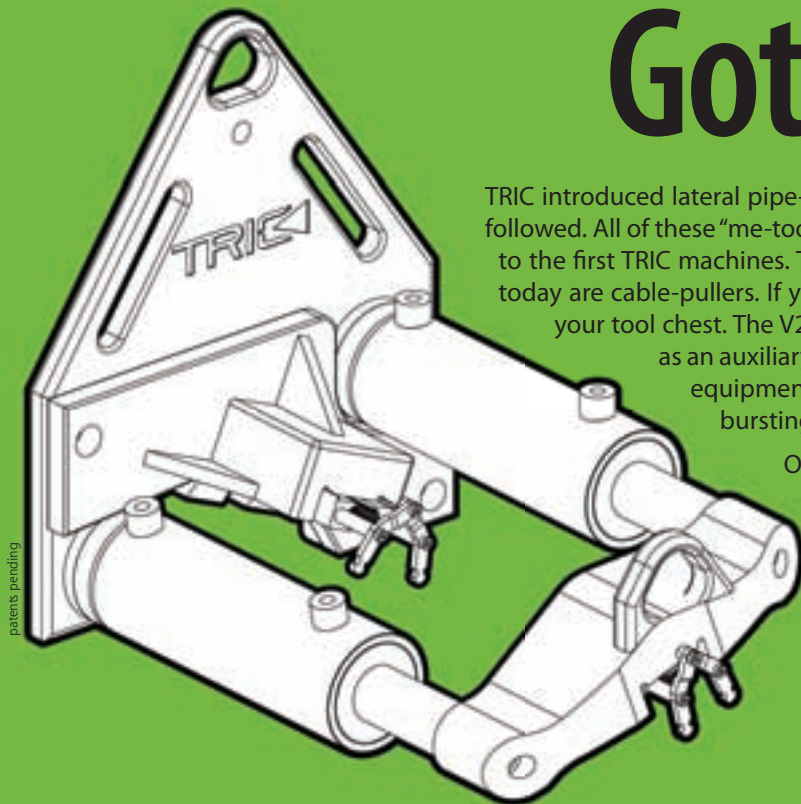
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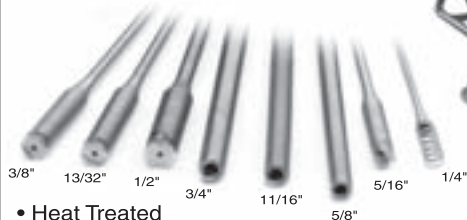
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The lightweight, aircraft-grade aluminum frame reduces vibration and dissipates excess heat. The Annovi Reverberi pump is a triplex ceramic plunger type RKA series. The 13 hp Honda GX 390 engine offers high torque. 800/333-9274; www.watercannon.com.

UHP WITH HIGH HORSEPOWER

The 605 Series waterjet pumps from **NLB Corp.** combine ultrahigh pressure and high horsepower in a unit that can be converted to a variety of operating pressures. The range includes eight operating pressures from 4,000 psi to 40,000 psi, with engines up to 600 hp. Diesel and electric models are available. The series offers flows as low as 20 gpm. Units can be converted from one pressure to another in about 20 minutes and are easy to maintain. 248/624-5555; www.nlbcorp.com.



FLEXIBLE BLASTING UNIT

The X-Series mobile waterblast unit from **Jetstream of Houston** is designed for flexibility and efficiency. A greaseless spread bearing PTO provides reliable power transmission and reduced maintenance. An integrated filter and

water tank system extends component life and increases operating time, and a strong, lightweight frame provides high towing performance. The X-Series is built around the UNx fluid system, designed for fast conversion between 5,000 and 40,000 psi with input power from 150 to 325 hp. It is available as a skid or trailer unit. 800/231-8192; www.waterblast.com.

HIGH-PRESSURE ACCESSORIES

Valves, fittings and tubing from **High Pressure Equipment Co.** are designed for waterblasting systems. With 316 high-tensile stainless steel, the components are available in several pressure classes with ratings through 60,000

psi. Medium- and high-pressure components use a compact coned-and-threaded connection, allowing for larger bore sizes and increased flow rates. Valves are available in 1/4-, 3/8-, 9/16-, 3/4- and 1-inch-outside-diameter tubing sizes and in five patterns for a wide range of requirements. Taper Seal valves with a compression-type connection are available for pressures to 15,000 psi. 814/838-2028; www.highpressure.com.

HIGH-EFFICIENCY HOSE

Maximus hose from **SPiR STAR** is a high-efficiency ultrahigh-pressure hose that works at pressures up to 46,000 psi. With a 1/4-inch inner diameter, it decreases pressure drop. The hose increases operating pressure at the nozzle for improved cleaning efficiency and reduces backpressure for less pump wear and fatigue. A full line of high-flow adapters give users more pump performance, improving flow rates and enabling efficient cleaning. 800/890-7827; www.spirstar.com.



LOW-EFFORT BLASTING GUNS

New **blasting guns** from **Hammelmann Corp.** have a simple lever mechanism that allows the operator to use the gun without strain and bodily stress, enabling longer, more concentrated working periods. The company says it takes 80 percent less effort to operate and hold the trigger than on conventional guns. This can help reduce valve component wear, since the operator cannot float the trigger when the lever is in the closed position. The lever also acts as a locking safety when the trigger is released. Ergonomically formed grip extensions in various designs can be easily attached for new support positioning. 800/783-4935; www.hammelmann.com.



DRIVE FLEXIBILITY

New compact, high-performance **pressure-cleaning pumps** from **Cat Pumps** are rated at 5.5 gpm/3,500 psi. Model 5CP5140 has a dual extended shaft for pulley drive from either side of the pump using either gasoline engine or electric motor. Model 5CP5410G1 is fitted with a gearbox for mounting directly onto any standard 1-inch-shaft gasoline engine. Model 5CP5140 also couples to a hydraulic motor to run from a truck hydraulic system. These models offer drive flexibility in a compact, lightweight footprint.



Model 5CP5140J and 5CP5140G1J pumps include the MAG-JET jetting valve, providing added agitation for pipe cleaning. These high-pressure plunger pumps have solid ceramic plungers and special-blend seals for long seal life and

a forged brass eight-screw head for strength under high pressure. The helical gear on the gearbox model provides secure engine alignment for continuous-duty operation. 763/780-5440; www.catpumps.com.



HOSE ASSEMBLY

The 1/2-inch **Goldenblast Plus** waterblast hose assembly from **PowerTrack International**

is compact, lightweight, and flexible, constructed for extreme high-pressure waterblasting applications. The hose is designed with a working pressure of 15,950 psi, a burst pressure of 39,870 psi, and a cover 80 percent more abrasion resistant than standard waterblast hose. The operating temperature range is -40 to 200 degrees F. The assemblies are designed to the worldwide standard pressure safety factor of 2.5 to 1. Other sizes are available upon request. 800/365-1577; www.powertrackhose.com.

ENGINE FOR PRESSURE WASHERS

The **EA190V** air-cooled engine with vertical shaft configuration from **Subaru** offers chain-driven overhead cam (OHC) technology. The 189cc displacement engine is designed for a variety of equipment including pressure washers. It is designed for easy starts, quiet operation, and more power. A highly efficient hemispherical combustion chamber combines with OHC technology to optimize performance. It uses a high compression ratio to produce high power and torque. 847/540-7300; www.subarupower.com.



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The **Rotary Waterjet** gun from **All Jetting Technologies** operates at 4,800 rpm and up to 45,000 psi for surface preparation. The pneumatic air drill's high rotary speed quickly and effectively cleans surfaces while reducing hazardous byproducts. The handheld lance weighs 10.5 pounds and has an adjustable front safety trigger, long-life seal, and no midstem bushing. The lance can be customized to with a 22- to 36-inch barrel. High-pressure sapphire nozzles heat-treated and laser-etched with the sapphire size are available. 772/286-1218; www.alljetting.com.



ELECTRIC PRESSURE WASHERS

Electric-powered, direct-driven **cold pressure washers** from **Steam Jenny** have high-efficiency motors and can operate in enclosed areas where gasoline-powered machines cannot be used. They are powered by Marathon or Baldor motors, range from 1.5 to 10 hp, and are available with single-phase GFCI or three-phase power requirements. All have industrial-grade triplex ceramic plunger pumps. Units are available with pressures from

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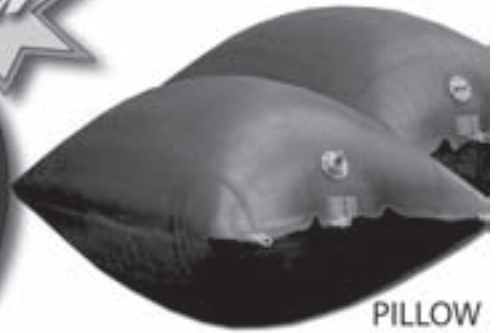
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SOLUTION

Gamajet Cleaning Systems gave Holmes a demonstration of a rotary impingement tank cleaning machine configured to operate with an 80 gpm/3,000 psi combination sewer cleaner from the City of Virginia Beach Department of Utilities. Other municipalities and sewer authorities attended.

Impingement cleaning uses a concentrated jetstream expelled in a controlled circular pattern. As flow and pressure increase, the radiating force of the liquid scours the vessel and provides a cascading rinse. The spray head, positioned in a wet well for the demonstration, finished the first 360-degree cycle in 12 minutes, leaving the entire surface clean. The grease, homogenized into a slurry, was suctioned into the combination truck or washed downstream.



RESULT

Tidewater authorities are staying ahead of grease buildups in their lift stations and providing better customer service. The work eliminates confined-space entry rigging, saving time and money. The cleaning machine works with standard jetters and combination sewer cleaners. 877/426-2538; www.gamajet.com.

DEDICATED WET/DRY MACHINE

PROBLEM

GAP Pollution and Environmental Control, with offices in Pennsylvania, Virginia and West Virginia, had industrial customers with numerous jobs requiring waterblasting and vacuum equipment. On those occasions, GAP deployed a vacuum truck and a waterblaster, which required two technicians to operate each piece of equipment.

SOLUTION

The company bought an HV-56 hydroexcavator from GapVax. The dedicated wet/dry machine required one operator and performed vacuuming and waterblasting, enabling the company to reduce its cost to customers. The machine has a 5,300 cfm/27-inches Hg vacuum blower discharging into a 15-cubic-yard debris tank.

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RESULT

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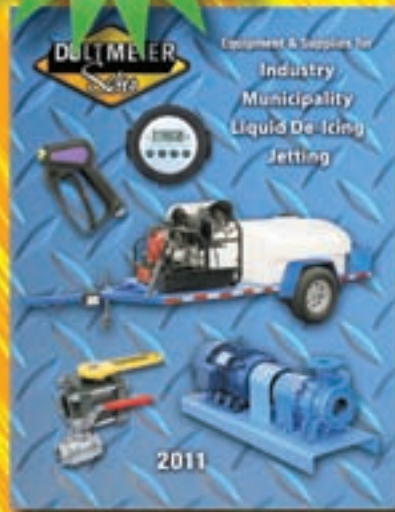



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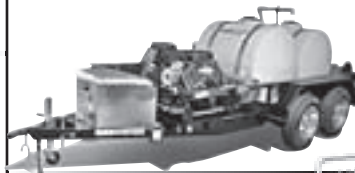


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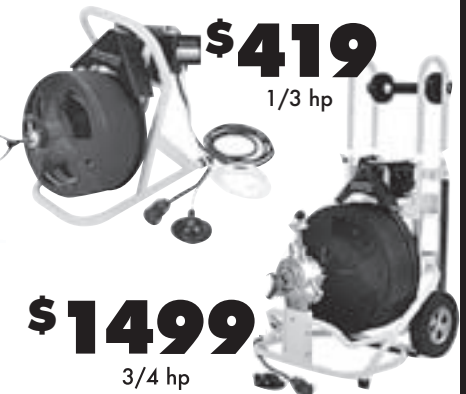
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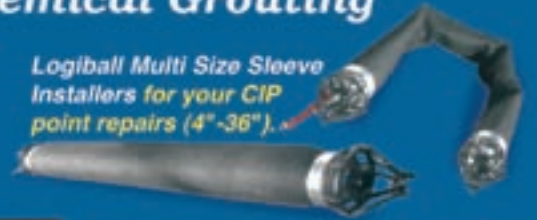
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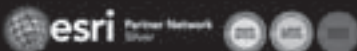
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KROHNE Inc. has posted a vodcast about leak detection strategies. The video explains how to select the correct leak detection system for a particular application. It can be viewed at www.youtube.com/watch?v=aRXv-qqQnLo.

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McElroy has added OPD Solutions of Norway and Gulf Services and Industrial Supplies Co. LLC of Oman to its network of international distributors. OPD is a distributor of polyethylene pipe in Norway, Sweden, Finland and Denmark. Gulf Services, a division of Arabia Holding Group KSC, is a supplier of industrial equipment for the wastewater, gas and oil industries.



MAX-LIFE MANHOLE TOOLS

Vac-Traps
Combo Owners! Save time and cash! "Vac-Trap" is the Newest advancement in sewer cleaning in years!

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Comes with 22' of Poly Rope. Available from 6" to 24".

Grit Catchers
Stops finer grit, black sand and smaller, loose debris.

Debris Catcher for use with Poles
Debris and Grit Catchers both can be used with Fiberglass Poles. Provides for positive action of positioning, raising and/or lowering these catchers in manholes.

Versi-Clam
Knock down design, easily assembled from 6' to 25'. One size can be used in different lengths. Ships UPS.

Special Manhole Tools from Max-Life for Use with Fiberglass Poles.

- MGLC-1** Grease Log Chopper. Blade
- M3PG-1** Three Prong Grabber. Great for Rocks and Roots.
- MHG-2** Horse-Shoe Grabber. Great guiding hose into sewer lines.
- MDS** Debris Scoopers. Heavy duty construction For 4", 6", 8" and 10"
- MGP-24** Quick Connect Fiberglass Poles. 24' pole set used with above Tools and Debris Catchers. Each set Includes 3 ea. 6' male x female and 1 x 6' end pole.
- MDG-1** Debris Grabber 5' - 15'. Telescopic Extendable Debris Grabber with Steel body construction and articulating end fork. Rope opens and closes jaws for positive grabbing.
- MCLAW** Max-Claw 7' - 15'. Telescopic Extendable Claw with fiberglass pole extension spring loaded end Claw for retrieval.
- MCG** Grit Basket. For use with poles or rope. In sizes from 6" to 24".
- CH-1** Great for cameras or gaffing downstream tools.
- MCL-1** Claw with 25' ft rope. Used with quick connect poles.
- MBC-1** Nice 9" round paddle for general use.

Max-Life Mfg. Corp.
11580 Seaboard Circle Stanton, Ca. 90680
Tel: 888-873-6295 | Fax: 714-897-2810
www.flexmax.com | dhp@flexmax.com

RIDGID PROMOTION RAISES \$8,000 FOR PHCC



RIDGID donated \$8,101 from its Invest in Your Future promotion to the Plumbing-Heating-Cooling Contractors National Association Education Foundation. Proceeds were raised by selling customized K-1500

sectional drain-cleaning machines on eBay. The Top Fuel Drain Eliminator raised more than \$4,500. It also was voted Best in Show by attendees at the Pumper & Cleaner Environmental Expo. The American Power machine raised over \$2,000 and the Venom machine raised \$1,500. Bruce Francisco of Pikeville, Ky., was randomly chosen winner of a K-1500 sectional machine from among Best in Show voters. c

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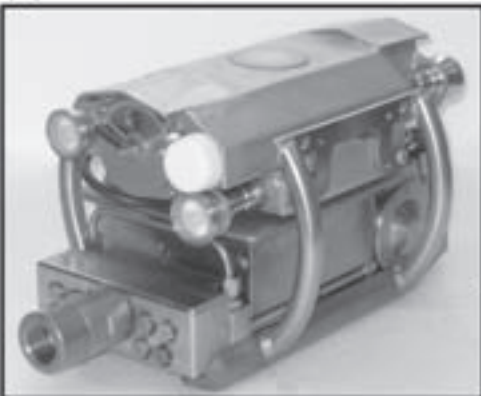
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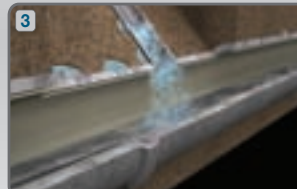
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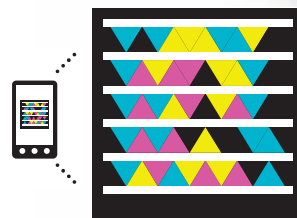
LISTINGS

Amarillo, Texas sewer, drain & plumbing business established in 1976. Owner wants to retire, so take the keys to a 2004 Sprinter outfitted with all of the equipment you'll need to run this business. Price includes real estate with 80x100 shop/office on two city lots. Good gross, good profit, financials available with signed non-disclosure. **Offered at \$495,000.**

Successful business with a large amount of equipment and inventory. Profitable sewer and septic business in central Pennsylvania. Increasing revenue over the past 3 years and a large amount of equipment and inventory. Equipment is a mix of old and new, but all is working and making money. **Selling price \$250,000.**

Chicago-Area Biosolids, Land Application, Dredging and Industrial Services Business. Established in 1985, owner is retiring. Reputable business includes real estate servicing the entire Chicago-land area with sludge and biosolids disposal and treatment services. Real estate and shop included with sale valued at \$750,000, business grosses in excess of \$3 million annually, \$6.3 million in equipment and assets including several TerraGators, Vac Trailers, dump trailers, loaders and much more. **\$4,900,000.** Huge potential, good profit and priced right. Non-disclosure Agreement required, all P&L statements, list of assets, and financials available to qualified buyers.

Well-Established and Profitable Texas Septic, Sewer & Installation Business For Sale. Price reduced. Grossing in excess of \$600,000 annually, customer list of nearly 2,000 accounts and 430 contracted customers. Includes nice late model equipment, most are 2007, 2008 model years. Owner retiring after nearly 40 years in business. Real estate available upon request. **Reduced to \$450,000.**



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PHCC MEMBER

Electric Eel Units Offer Flexible Inspection Options

BY ED WODALSKI

The eCAM Pro and companion Ace base model pipeline inspection systems from Electric Eel Mfg. Co. include a 1.68-inch-diameter color camera with sapphire lens, 20-LED light ring, high-resolution CCD element, and 512 Hz sonde. The stainless steel-housed camera can navigate 3-inch P-traps and has an auto-adjusting iris.

The Ace unit also has a 5.4-inch LCD monitor with antiglare shield, video output jack, powder-coated frame and 125 feet of Kevlar-braided 1/2-inch pushrod. A 1.23-inch camera for inspecting 1 1/2- to 4-inch lines and negotiating 2-inch plastic P-traps and 1/2-inch 90-degree bends is available.

"This is the next generation camera for us," says Mark Speranza, vice president of sales. "It's a more user-friendly, durable camera. The camera head itself is flexible enough to negotiate a 3-inch P-trap."

Other Pro features include self-leveling camera, 8.4-inch monitor

and weatherproof hard case with 200 feet of pushrod (reel capacity available to 400 feet), one-touch recording to a built-in 320 GB hard drive or USB flash drive, and 8X zoom for detailed close-ups.

The system also includes a 2-hour NiMH battery with built-in charger (3-hour charge time with unit off), on-screen footage counter, voice-over recording, 16 pages of text writing capability, and 8-inch wheels for maneuverability. 800/833-1212; www.electriceel.com.



RADIODETECTION INTRODUCES RD5000 LOCATOR KIT

The RD5000WL single-frequency pipe and cable locator kit from Radiodetection includes the RD5000WL locator and RD5000WLT transmitter. The locator has a guidance mode that uses directional arrows and audio tones to guide the operator to the pipe or cable and a single-strength mode that displays the field strength given by the located pipe or cable. Both locator and transmitter are controlled using a single button. 877/247-3797; www.radiodetection.com.



LOWELL INTRODUCES SURETORK WRENCH

The SureTork wrench from Lowell Corp. ensures nuts are properly torqued. The wrench has a click-type torque handle with a quick-release socket head that accepts Lowell's standard or extended reach sockets. The 20-inch wrench weighs 5 pounds with the head and one socket. Torque settings range from 30 to 150 ft-lbs. Torque values are field adjustable in 1 ft-lb increments. Extended hex socket sizes range from 7/8 to 1 1/4 inches. Standard hex sizes range from 5/8 to 1 1/4 inches. Standard square sizes range from 5/8 to 1 1/4 inches. Metric sockets are available. 800/456-9355; www.lowellcorp.com.



EDSON OFFERS VARIABLE-SPEED ELECTRIC PUMP

The Model 2500 double diaphragm electric pump from Edson International is rated for 25 gpm and can transfer up to 1-inch solids with low emulsion and no shear. The self-contained unit has a pushbutton stop-start and programmable variable-speed drive. The self-priming pump runs on single- and 3-phase power and can be operated remotely or integrated into a process system for operation on a time-run basis. It has a PVC body and polypropylene wetted parts. 508/995-9711; www.edsonpumps.com.



CUSCO INTRODUCES MOBILE LUBRICATION UNIT

Mobile Lubrication and Waste Fluid Retrieval systems from Cusco, a Wastequip brand, are made for servicing equipment in the field. The mobile units are equipped with seven different fluid delivery systems along with grease dispenser, waste fluid recovery and compressed air. 800/490-3541; www.wastequip-cusco.com.



POWER ADHESIVES INTRODUCES HOT MELT BONDING

The hot melt adhesive system from Power Adhesives is made for bonding precast concrete, replacing double-sided tape, solvent-based adhesives, bolting, nailing, silicon or other fastening systems. The one-step process requires no priming and secures a strong bond that sets almost instantly. The kit includes Casttec precast adhesive and one of three TEC heavy-duty hot melt glue guns. 704/334-2425; www.poweradhesives.com.



GOLD EAGLE INTRODUCES STA-BIL ETHANOL TREATMENT

STA-BIL Ethanol Treatment and Performance Improver from Gold Eagle Co. protects gasoline and small engines from the effects of ethanol-blended fuels. The formula, when used with every fill-up, protects against corrosion, helps remove water from fuel, and cleans fuel injectors, carburetors and intake valves. 800/621-1251; www.goldeagle.com.





CEATTACHMENTS OFFERS SKID-STEER TRENCHERS

The XR model line of trenchers from CEAttachments offer digging depths from 24 to 60 inches. The skid-steer and track-loader attachments feature a 50,000-pound digging chain, removable double-flighted spoil auger, self-aligning boom, sealed tapered roller bearings, high operating pressure capacity and optional hydraulic side shift. 866/232-8224; www.ceattachments.com.

PROSPAN INTRODUCES PNEUMATIC SHORE

The pneumatic shore from Prospan Mfg. Co., made of anodized aluminum and stainless steel, complies with the OSHA Excavation Standard and is available in four sizes to span up to 13 feet. A variety of extensions and end-attachments are available. 888/413-8100; www.prospanshoring.com.



CLEAR COMPUTING INTRODUCES GPS RELAY IPHONE APP

The GPS Relay iPhone app from Clear Computing adds location and time/date confirmation to its Stop-by-Stop Driver Reporting software. The app sends the driver's latitude, longitude, street address, date and time along with a Google map when the driver sends work order status back to the office or customer to confirm completion of service. A full history of driver status information is maintained in the Total Activity Control operations management system. 732/747-0113; www.clearcomputing.com.

CECOMP OFFERS DIGITAL PRESSURE GAUGE

The DPG2000 series of digital pressure gauges from Ccomp Electronics are safe for hazardous locations Class 1, Division 1, Groups A, B, C, D and Zone 0. The gauges have all-metal housing and use a temperature-compensated 316L stainless steel sensor. Advanced models can store up to eight readings, selectable engineering units and feature pass code protection. 800/942-0315; www.cecomp.com.



KAFKO OFFERS OIL EATER DEGREASER

Oil Eater cleaner/degreaser from Kafko International Ltd. is an all-purpose, highly concentrated, alkaline-based cleaner formulated to emulsify and disperse oil, grease, soil and grime. Made for use on equipment, tools, engines and parts in pressure washers, the biodegradable, non-corrosive, non-toxic and non-flammable cleaner contains no acids, abrasives or petroleum solvents. It is available in 1-, 5-, 30- and 55-gallon containers. 800/528-0334; www.oileater.com.



M&M OFFERS MIA ROOT CUTTER

Mia Root Cutter blades from M&M Enterprise are designed to generate less heat for longer life. The high-velocity blades have an operating pressure of 800 to 4,000 psi and flow rate of up to 40 gpm. 865/603-0584; www.miarootcutter.com.



RUBBERMAID INTRODUCES WATERLESS URINAL

The waterless ecoUrinal from Rubbermaid Commercial Products LLC features a cartridge system that can last 10 years and save 40,000 gallons of water annually. The unit utilizes enzyme tablets that proactively eliminate odor-causing bacteria and maintain drain lines with scheduled cleaning. 800/347-9800; www.rubbermaidcommercial.com.



MYERS INTRODUCES LOW-PROFILE PLUNGER PUMP

The HPL 120-30 low-profile, reciprocating plunger pump from Myers Pentair Water is designed for mobile sewer jetting applications. The pump delivers up to 120 gpm at a maximum discharge pressure of 3,000 psi. Features include side-gear reduction, open cradle, independent and removable stuffing boxes, spin-on oil filter and pressurized power end lubrication. 419/289-1144; www.myersaplex.com/hpl120.

PEARPOINT INTRODUCES P340 FLEXIPROBE INSPECTION SYSTEM

The P340 flexiprobe pushrod video inspection system from Pearpoint features USB flash drive connectivity and 1- and 2-inch, high-resolution cameras. The weatherproof P340USB controller records high-quality digital video or images with a single key press and displays them on an ultrabright, 8-inch TFT screen. Users can zoom, pan and rotate images during recording and playback to focus on problem areas. Still pictures can be taken at any time. 877/247-3797; www.radiodetection.com/p340.



COXREELS INTRODUCES DEF HOSE REELS

Diesel exhaust fluid hose reels from Coxreels feature a stainless steel external full-flow swivel and chemical-resistant Viton seals for safe and reliable dispensing. The reel is available in heavy-duty, single-pedestal (SH Series) or supreme-duty, dual-pedestal (T Series) configurations that handle up to 75 feet of 3/4-inch or 50 feet of 1-inch I.D. DEF hose. Both designs have Super Hub dual-axle support systems for increased stability. Models are available with standard spring retraction and EZ-Coil controlled retraction systems. 800/269-7335; www.coxreels.com.



HIGHWAY PRODUCTS INTRODUCES PICKUP PACK STORAGE SYSTEM

The all-aluminum, weather-resistant Pickup Pack storage system from Highway Products includes one gull-wing box, two low-side rail boxes, headache rack, ladder rack and 2,000-pound capacity slide-out cargo tray. The center hatch securely locks the entire unit. 800/866-5269; www.800toolbox.com.

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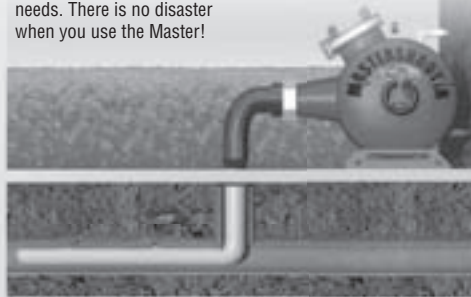
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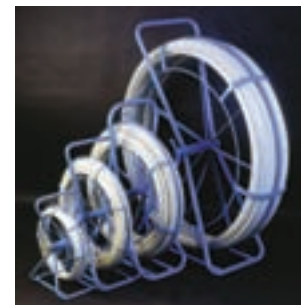
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IPS OFFERS WATER-TITE COMBINATION CLAMPS

Dual-clamping Water-Tite combination clamps from IPS Corp. are available in half, 2-hole, suspension, insulator and suspension/insulator styles. Combination half clamps have a preloaded nail for reduced installation times and angled seat for added stability. The suspension/insulator clamp can be used for through-the-stud and suspended applications. All clamps are compatible with copper, PEX and CPVC piping. 800/888-8312; www.ipscorp.com.



REELCRAFT INTRODUCES COMPACT DUAL- PEDESTAL REEL

The Series DP5000 dual-pedestal reel from Reelcraft Industries is made for air/water, oil and grease and up to 1/2-inch I.D. hose. Reels feature an interlocking, steel-formed and stamped base design for rigidity in truck-mount applications. The low-profile design enables it to be used in tight spaces or mounted in cabinetry. 800/444-3134; www.reelcraft.com.



RIDGID INTRODUCES VIEW- ONLY INSPECTION CAMERA



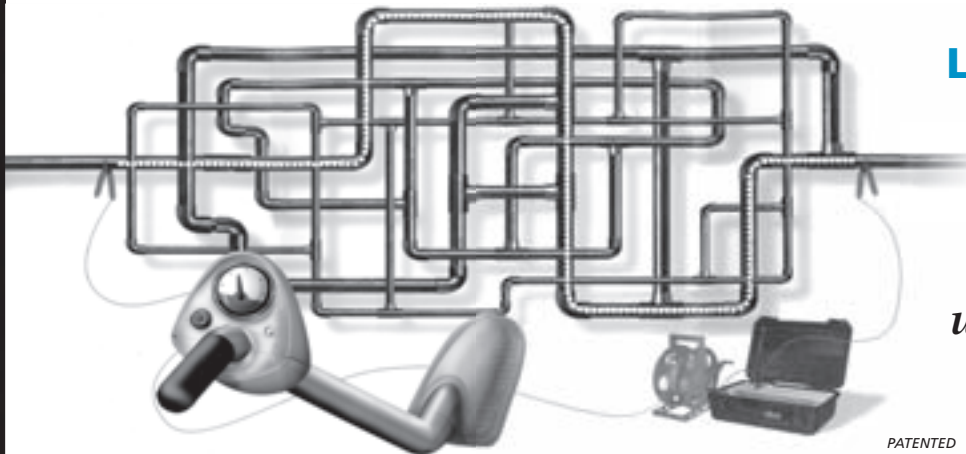
The micro CA-100 view-only inspection camera from RIDGID, part of the Hand-Held Diagnostic and Inspection product line, has a 3.5-inch display and pistol-grip design with one-hand controls. The rotation function enables the image to be positioned for best readability in tight locations. The unit has four adjustable

LEDs in a 3/4-inch, 17-mm aluminum camera head on a flexible, waterproof 3-foot cable. The cable can be expanded to a maximum of 30 feet with available extensions. 800/769-7743; www.ridgid.com. c

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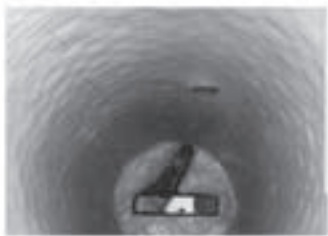
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1994 Chevy Vandura 3500 Hi-Top. 1,000 ft. cable; 2 Aries crawlers; 2 Aries pan & tilt cameras; new Aries WinCam program w/computer; brand new Onan generator. \$17,000. 845-374-1161 NY (C07)

2000 F350 Cues CCTV, new engine, recently rebuilt camera/tractor, 1500' new cable, \$20,000. Source1, 3"-24" pipe patch plugs/packers, 4" elbow packers and misc. equipment associated. Call for pricing. Jeff @ 602-828-9794 AZ. (C08)

1998 Cues Mainline TV System: GMC Savannah 3500, Cues w/Pro-Data on-screen titler, Honda generator, Sony combo DVD/VHS, 1700' of M/C cable, pan & tilt camera w/shorty transporter. \$39,500. 608-835-7767 WI (CBM)

Used and rebuilt color and black & white camera kits. Ridgid SeeSnakes, General, Gen-Eye, Pearpoint. The Cable Center. 1-800-257-7209. (CBM)

TV INSPECTION

Spartan cameras, used. 1 full size color reel; 1 monitor with VCR; 3 mini camera kits. The Cable Center, 1-800-257-7209. (CBM)

TV Ferret: Complete used, pan & tilt system, 600 ft. cable, 6" crawler. More turn-key systems. Starting at \$20,000. www.tvferret.com. 518-399-2211. (CBM)

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2004 Vermeer E550 Vac Trailer: 500 gallon evacuator, 725 hours, Duetz 4 cyl, 220 gal. water tank, mounted on 13' trailer.....\$24,500
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VACUUM LOADERS

1999 International with a Guzzler Ace 27" HG wet/dry industrial vacuum tank loader. **Demo/Rental unit.** (Stock #7390) **www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).** (C07)



1995 International Paystar 5000 Vac Truck: Cummins M11, Fuller 8-spd., lockers, 340" WB, PTO, disc wheels, 22.5 tires, spring susp., 1995 Pesvac 3200 gal. tank, 32,000# max load, s/n: PVSDH-3200-0595.....\$89,500
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VACUUM LOADERS



2001 International 2674 Vac Truck: C-10, 10-spd., shows 103K miles. 6x4, 258" WB, 20/44 axles, spring susp., disc wheels, 22.5 tires, 2000 Guzzler body, model ACE.....\$99,500
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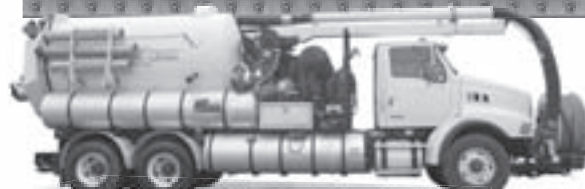
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