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By Doug Day



On the cover: CEO Marlea Tichy and president Scott Boyd of Quality Pipe Services in Denver see municipalities as a growing market. The need for maintenance doesn't go away in a soft economy, and tighter budgets are forcing cities to be more strategic in their infrastructure maintenance to avoid unplanned expenditures. (Photography by Pete Lawlor)

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- Money Manager: Saving for college with 529 plans
- Profile: Kirkman's Plumbing & Eel Service, Greenville, Ohio
- Profile: New England Pipe Cleaning Company, Watertown, Conn.
- Safety First: Learning a lesson from a nozzle-related fatality

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Published monthly by:



1720 Maple Lake Dam Rd., PO Box 220
Three Lakes, WI 54562

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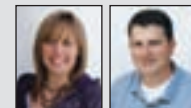
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SUBSCRIPTION INFORMATION: A one year (12 issue) subscription to *Cleaner* in the contiguous 48 U.S. states costs \$15.50 (24 issues for \$25; 36 issues for \$35). Subscriptions to Canada or Mexico cost \$27.50 per year (24 issues for \$52). Subscriptions to all other foreign countries cost \$150 per year. Subscribers are guaranteed monthly delivery of the paper. To subscribe, send company name, mailing address, phone number and check or money order (U.S. funds payable to COLE Publishing Inc.) to the address above. MasterCard, VISA, Amex and Discover are also accepted. Supply credit card information with your subscription order.

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CIRCULATION: Circulation averages 26,800 copies per month. This figure includes both U.S. and international distribution.



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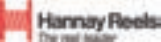

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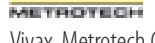


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Ted J. Rulseh

The Right Stuff

CHOOSING A NEW SERVICE LINE, AND THE EQUIPMENT TO SUPPORT IT, CAN BE A TOUGH EXERCISE. WHEN EVERYTHING WORKS OUT, IT'S A BEAUTIFUL THING INDEED.

BY TED J. RULSEH, EDITOR

As I write this, my wife and I are in the middle of building a cottage on a lake in Wisconsin's northwoods. By the time you read this, it will be complete.

For more than a year after we bought our lot, we agonized over decisions. Should it be big enough to have potential as a full-time house? Small enough for just a getaway? Basement or crawl space? What floor layout? Add a screen porch? How many windows?

So you perform due diligence, weigh the facts, trust your gut to a certain degree, and ultimately make the commitment.

And so on, and so on. We kicked it around until finally we had to make a decision on the best information and best gut feel we had – or else dither for another year, and we're not getting any younger. Of course, every decision meant spending more or less money.

It's a bit like that when considering a business expansion into a new service line or line extension and adding the necessary equipment. Instinct and hunches aren't substantial bases for major investments, yet too much analysis can lead to paralysis.

WHEN IT ALL FITS

So you perform due diligence, weigh the facts, trust your gut to a certain degree, and ultimately make the commitment. When it all works out, it's like a baseball player catching a fastball square on the bat's sweet spot: It's a beautiful moment.

A case in point is the subject of this month's "Money Machines" feature in *Cleaner*. Business manager Felipe Lofaso and the team at Florida Flow Control in Wellington, Fla., made a decision to add a valve exercising system to expand the company's range of services to municipal customers.

In no time at all, the machine was paying for itself, while also eliminating lots of physical stress and strain on the company's employees. Soon, the company was looking into pursuing ongoing contracts to perform communities' routine valve exercising.

Here's a case where an equipment decision meshed perfectly with the company's existing business and future plans. And as a bonus, the machine apparently turned out to be the right make and model at the right price point.

A BIG MARKET

No matter what market you decide to enter, you'll have equipment choices to make. Name almost any basic technology and you'll find three, half a dozen, or more manufacturers offering their own versions.

It's not so much a question of which one is better than the others. It's a question of which one is right for you. There's only so much research you can do, only so much comparing of features and specs, before you have to make a decision.

So it is with most big decisions, business and personal. By the time you read this, my wife and I will have moved the first sticks of furniture into our new cottage, and we'll be finding out, for certain, which of our decisions were right. I hope most of them were, as I hope your choices in your latest or next business line expansion turn out to be everything you expected. **c**

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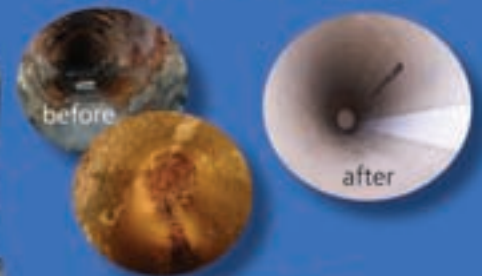
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QUALITY PIPE SERVICES CHARTS A GROWTH COURSE WITH A FOCUS ON FULL-SERVICE INFRASTRUCTURE CLEANING, INSPECTION, TESTING AND REPAIR FOR CITIES **BY DOUG DAY**

From left, lead operator Tom McCarry, superintendent/project manager Monty Hill, and lead operator Luis Marin wrap the lining bladder to patch a leak. (Photography by Pete Lawlor)

While the nation's economy went from boom to nearly bust after the turn of the new century, Quality Pipe Services has managed impressive growth, fed by expanding services and diversification.

"We started out working for general contractors during the housing boom," says owner and President Scott Boyd, who founded the company in 1999. His next market choice was much more stable.

"In 2006-07, we started concentrating more on municipalities with jetting, TV inspection, and infrastructure testing and repair, anything cities needed," he says. "No matter what the economy is like, they need to do maintenance on their infrastructure."

Not willing to stand still, in 2008, Quality Pipe Services added service laterals to its cured-in-place pipe (CIPP) lining along with CIPP for point repair. Manhole rehabilitation followed in 2009. "We've grown steadily," says Boyd. "We had a couple of years of ups and downs, but we've grown each year and expanded our geographic area. We've grown 200 percent in the past 12 months."

Operating from Denver, the company now has business licenses in 18 states – nearly every state west of the Mississippi River. "Our employees travel the majority of the time, and we're opening an office in Houston," says Boyd. "The majority of our work right now is in Colorado and Texas."

(continued)

profile

QUALITY PIPE SERVICES, DENVER, COLO.

OWNER:	Scott Boyd
FOUNDED:	1999
CUSTOMERS:	Municipalities in 18 states
SPECIALTIES:	CIPP lining, manhole rehabilitation, CCTV inspection, pipe cleaning
EMPLOYEES:	40
AFFILIATIONS:	NASSCO, National Utility Contractors Association
WEBSITE:	www.qualitypipeservices.com



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From left, lead operators Luis Marin and Tom McCarry work with superintendent/program manager Monty Hill to apply mixed resin to the folded open patch of material that will cover the pipe for CIPP lining.

DIVERSE FLEET

The company's 40 employees have access to a large fleet of equipment located in California, Colorado, Montana, New Mexico, Utah, Texas and Wyoming. That includes seven inspection trucks (CUES, Aries Industries) and seven Vactor combination trucks that work in pairs on cleaning/inspection projects, a Sprayroq sealant spray rig for manhole rehabilitation, CIPP lining trailers from BLD Services, and a pipe vacuum/pressure testing system using plugs and equipment from Cheme Industries, along with dump trucks, backhoes and pickup trucks.

For high-pressure pipe cleaning and vacuuming, crews use Vactor 2100 units, and the company uses the KEG 400 chain cutter from KEG Technologies to remove roots and other debris. Along with installation and emergency repair of water and sewer lines, the company offers fire

Lead operator Tom McCarry (left) and superintendent/program manager Monty Hill mix the sealant from Strong-Seal Systems.



hydrant installation and repair and water valve maintenance, including management of testing data.

Despite all the technology at the company's disposal, CEO Marlea Tichy says the most important part of the business is being there to help customers solve their problems and developing relationships.

"We've become a full-service problem solver by being committed to the success of our clients," says Tichy, who joined the company in spring 2011. Boyd adds, "That's why we got into the different services – to meet the needs customers have without dealing with four or five contractors at once. It makes their lives a little bit easier."

"Cities and the EPA are recognizing that more than 60 percent of problems in wastewater treatment come from the laterals. It's a need that's just going to grow."

Marlea Tichy

He started the company to make a difference: "I'm very passionate about this industry and helping customers." That includes wireless capabilities on inspection trucks to quickly download test videos using WinCan data acquisition equipment and software. "Our trucks can be anywhere in the United States and still get video delivered daily to customers if they want," says Boyd. "That data is the most important thing to the engineers and cities."

CIPP SAVES

CIPP lining has been around for nearly four decades and has proven cost-effective in many ways over other pipe repair techniques. "Streets aren't torn up, traffic lanes aren't closed," says Tichy. CIPP lining also takes less time: "If you're using open cutting to redo a street full of laterals, it would take you a week or two. We can go in with CIPP and do it in a couple of hours."

(continued)

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Superintendent Monty Hill lowers the Aries Badger camera into the manhole for inspection.

A SURPRISE INSIDE

Scott Boyd, president of Quality Pipe Services, is hard to impress when it comes to pulling strange things from sewer pipes. "A front-end car fender is probably the biggest thing we've pulled out," he says. "That was from a lift station."

There is the occasional wedding ring, and most people probably know someone who has lost a cell phone down a toilet. "We've found big boulders, rocks, live rounds of ammunition," he says. "People will just open a manhole lid and dump everything down there, and they flush whatever they can."

The company's office used to be near the county jail, and it seems inmates were not averse to flushing knives, other contraband, and even toothbrushes and clothing. A nearby military academy is another source of interesting finds, because soldiers are limited in what they can have in their rooms. "If they think they're going to get inspected, the first thing they do is flush it down the toilet," says company CEO Marlea Tichy.

Sometimes, what comes out of the sewer system even has some value. "We were in Butte, Montana, and pulled out a 1925 buffalo nickel from a manhole," says Boyd. "We turned off the vacuum machine and all this change started falling out. That was probably the coolest thing we ever pulled out of a sewer. It wasn't worth very much, but it was still in pretty good shape and you could still read it."

Such a coin, depending mostly on condition, is worth a little more than a dollar to as much as around \$110.

Quality Pipe Services expanded on its CIPP point repairs by offering sewer lateral lining and this year became the west coast installer for BLD Services as part of a strategic partnership. The point repair system is available in diameters of 6 to 24 inches and in lengths up to 12 feet. "Cities and the EPA are recognizing that more than 60 percent of problems in wastewater inflow and infiltration come from the laterals," says Tichy. "It's a need that's just going to grow."

That growth, adds Boyd, will probably be on a large scale. "It's going to be a huge revenue stream because a majority of cities are starting to pay attention to laterals," he says. "They're recognizing the need to repair not only the mainlines, but also the laterals, where you get the leakage and roots that eventually cause problems in the main."

CIPP work in laterals is just like working in a main, using felt liner material infused with polyester, vinyl ester or epoxy resin. The material is moved into position on an inflatable rubber bladder. "When it is pressurized," says Tichy, "it either seals up against the main for a point repair, or expands up the lateral."

The inflated bladder holds the felt in place for 30 to 45 minutes while the resin cures with ambient temperatures.

GROWTH IN MANHOLE REHAB

Last year, Boyd recognized that manhole repair was becoming more important to his customers. "The gases eat away at the concrete and cause it to crumble; manholes have been neglected over the years," he says. "If cities are rehabbing their system, the manholes are just as important as the mainlines."

This repair is also no-dig. "It's more cost-effective when you're doing the work from the inside," says Boyd. "You don't have to dig up the manhole and replace it; you can put the structural liner in there and it's going to last another 50 to 100 years."

The company offers manhole rehabilitation with Sprayroq spray-applied

polyurethane and DINJER mortar (WBE Dorcas), epoxy gel and inflow inserts.

Tichy says it's exciting to be able to solve society's problems. "Infrastructure work isn't glamorous or glitzy, but whether you're turning on your faucet or flushing your toilet, everyone needs our services," she says. "With the tight budgets of our customers, we can come in and brainstorm ideas and provide customized solutions that fit the budget, rather than selling a particular product or service."

"Our trucks can be anywhere in the United States and still get video delivered daily to customers if they want. That data is the most important thing to the engineers and cities."

Scott Boyd

HIGH POTENTIAL

Municipalities have become more proactive with maintenance, according to Boyd. "I don't think those big budgets with all the equipment and people are going to come back," he says. "I see a lot more outsourcing of maintenance. The downturn of the economy affected everything and I think it's going to change the way people think."

New regulations are also a big driver, according to Tichy: "They figure they're going to have to pay now or pay later, so they may as well fix it instead of risking fines or a consent order."

She says some customers feel they have a responsibility to go beyond the



Lead operator Luis Marin, left, and superintendent/project manager Monty Hill get the pipe inserted and ready for CIPP lining repair.

"I see a lot more outsourcing of maintenance work. The downturn of the economy affected everything and I think it's going to change the way people think."

Scott Boyd

regulations to protect their systems and prevent emergencies. "The cost of calling everyone out at the last minute, potentially in the middle of the night or during a storm, and trying to fix it then and there; you have no choices at that point," she says. "You're digging and replacing and finding materials at the last minute. There's a really high premium that comes with that."

For customers, it comes down to wise use of dollars. "If you have a maintenance program, you're videoing your pipes and assessing them, and you end up with a rating system to prioritize the work; those are the most important steps to decide where best to spend the money," says Tichy.

Quality Pipe Services' approach is to offer all the services a customer needs to make decisions about what to fix, and then to fix it. Boyd thinks the company's approach will allow it to continue to grow quickly. "I think we could probably reach as many as 200 to 300 employees over the next three to five years," he says. "We're on a pretty aggressive growth plan." **c**

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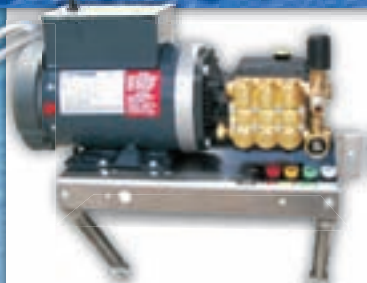
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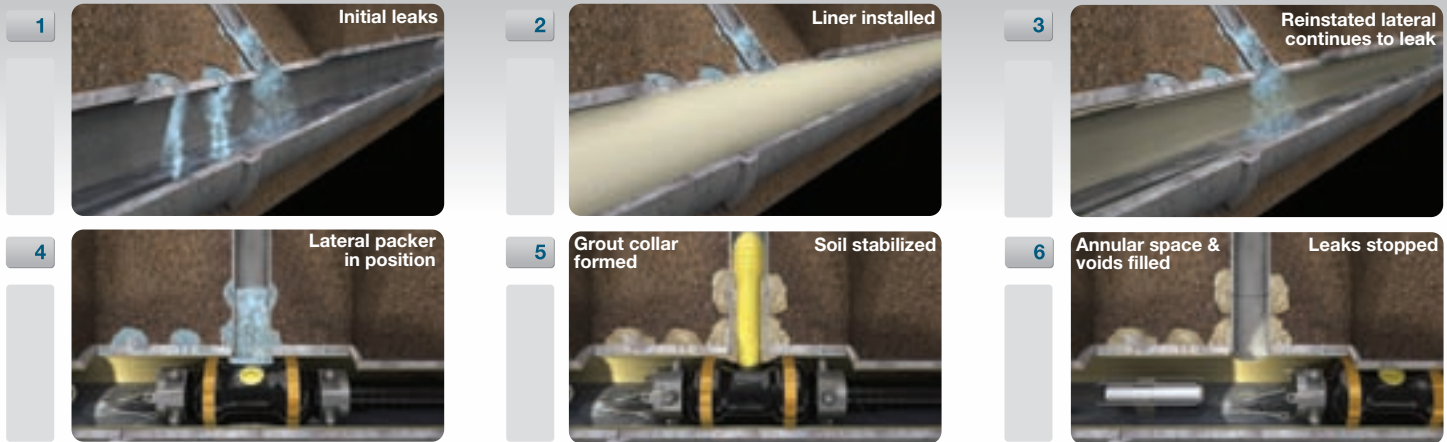
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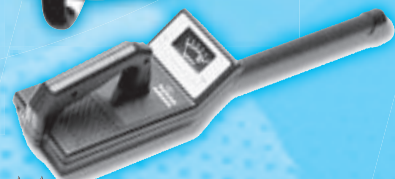
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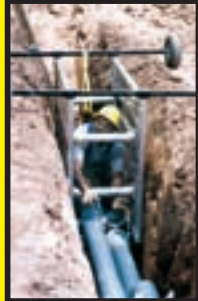
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Oh, Say, (Where) Can You See?

BLIND-AREA DIAGRAMS CAN BE USEFUL
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AROUND CONSTRUCTION EQUIPMENT

BY TED J. RULSEH

In a study of seven years of road construction site accidents conducted by the National Institute for Occupational Safety and Health, the largest cause of fatal accidents involved a worker on the ground being struck by a vehicle or equipment.

Since cleaning contractors often work in streets amid work vehicles and regular traffic, some lessons from the NIOSH study apply. In looking at ways to reduce the incidence of ground workers being struck, researchers created blind-area diagrams.

These diagrams can be used to educate both operators and ground workers and help reduce accidents and injuries in work zones.

As its name implies, a blind-area diagram is a picture that delineates areas around a vehicle that can't be seen from the operator's position. Diagrams are developed by using a light source to represent the operator's eyes. The shadows created by objects associated with the vehicle, like doorposts and mufflers, represent the blind areas.

NIOSH created blind-area diagrams for 38 pieces of construction equipment – visit www.cdc.gov/niosh/topics/highwayworkzones/BAD/imagelookup.html. You can download the diagrams as visual aids for showing the hazards of working around equipment to crews in classroom sessions or in "tailgate talks" held in the field.

Studying these diagrams can help owners and supervisors understand the main obstructions that create blind areas. **c**

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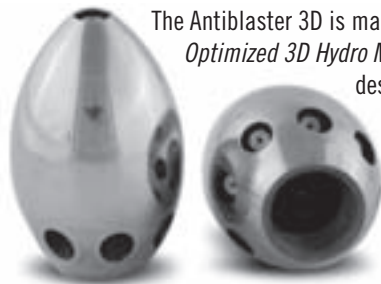
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THE 2012 PUMPER & CLEANER ENVIRONMENTAL EXPO WILL DELIVER THE BEST THE INDUSTRY HAS TO OFFER, ALL WRAPPED UP IN A CONVENIENT NEW PACKAGE

BY JIM KNEISZEL

It will never be more convenient to attend the Pumper & Cleaner Environmental Expo than in 2012, when the biggest trade show for the environmental services industry moves to Indianapolis.

The renovated and expanded Indiana Convention Center will host the 32nd annual Expo Feb. 27-March 1, providing a simple-to-navigate exhibit space connected through skywalks

to several modern hotels. Indiana, known as The Crossroads of America, is easy to reach by car, and the *Circle City*, as it's called, offers a state-of-the-art airport a short cab- or express bus-ride from downtown.

With 250 restaurants and clubs, and a large shopping mall connected to the complex of hotels serving the Expo, everything is within easy, climate-controlled reach. In fact, Expo attendees who stay in

technologies in the wastewater industry to nearly 10,000 contractors from almost 50 countries. And interest in Expo Education Day continues to grow, with participants getting the cutting-edge training they crave.

Education Day kicks off Expo week with 40 seminars on Monday, Feb. 27, in new meeting rooms adjacent to the exhibit hall, with another 35 seminars planned for Tuesday and Wednesday.



4,700 interconnected hotel rooms will be a leisurely two- to three-minute walk from the exhibits.

"Visitors will walk back and forth to the exhibit hall, restaurants and shopping. And they'll be able to do that without ever taking their jackets along," says Bob Kendall, owner of COLE Inc., the Expo sponsor. "This convenience will help create more networking opportunities than ever before at the Expo."

The quality of the new facilities will be matched by the exhibit and education offerings. The Expo will feature approximately 500 exhibitors who use this lofty stage to introduce the latest

The doors to the hall swing open Tuesday through Thursday, Feb. 28-March 1. Hours for the exhibits are 9 a.m.-5 p.m. Tuesday and Wednesday and 9 a.m.-2 p.m. Thursday.

NETWORK & LEARN

Several popular Expo events will continue as the show moves to Indy, according to Julie Gensler, Expo coordinator for COLE. The Expo will continue to offer fantastic networking opportunities, including roundtable discussions that were popular in 2011. An Industry Appreciation Night event is being planned for Tuesday, Feb. 28. The popular COLE Pub truck, which offers refreshments and a place for attendees to relax and unwind, will be moving into the exhibit hall for the first time.

And the Roe-D-Hoe competition, sponsored by the National Onsite Wastewater Recycling Association, will continue to attract top-notch machinery operators looking to win cash prizes for their skills, Gensler says.

New for 2012, the National Association of Wastewater Transporters is planning a series of

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events aimed at sparking friendly competition among pumpers, portable sanitation contractors and drain cleaners in attendance.

Tracks of Education Day seminars are being presented by:

- National Onsite Wastewater Recycling Association
- National Association of Sewer Service Companies
- National Environmental Health Association
- National Association of Wastewater Transporters
- Portable Sanitation Association International
- Southern Section Collection Systems Committee
- Northwest Michigan Onsite Wastewater Task Force

Another Education Day track of seminars will be presented by returning motivational speaker and business coach Scott Hunter. Additional seminars will be scheduled on Tuesday and Wednesday mornings, according to Gensler.

ACCOMMODATIONS

Expo lodging is plentiful within walking distance of the ICC. Hotels connected to the exhibit

hall include several Marriott properties, the Westin, Hyatt Regency, Omni Severin and Crowne Plaza. Many more hotels are located only a block or two away, near the Indiana State Capitol, White River State Park and Monument Circle. Gensler recommends booking early by going to www.pumpershow.com and clicking on the "hotels & travel" tab.

Based on other events set for Indy in early 2012, there's no doubt the city is up to the hospitality challenge of the Expo. Just before Pumper & Cleaner, Indianapolis will host the 2012 Super Bowl. Just after the Expo, the NCAA Final Four tips off at the Lucas Oil Stadium.

"The NFL chose Indianapolis for a reason," says Kendall, referring to the hotel, restaurant and entertainment infrastructure that has exploded in recent years to make Indy a world-class destination. With everything so handy, Kendall says folks who drive to the Expo will be able to park their cars and walk everywhere. And those who fly to Indy can cab it to their hotel and forget about needing to rent a car to get around.

"Once you're there, you can stay there," Kendall says. "Rental cars will not be necessary, which will save attendees a lot of money."

Those who want to venture out further will find that other attractions are a short cab ride away, including fabled Indianapolis Motor Speedway, the

eclectic Broad Ripple Village neighborhood or the Children's Museum of Indianapolis, billed as the world's biggest children's museum, to name a few.

THE MAIN EVENT

Setting aside the many options for entertainment, Kendall says there remains one over-arching reason for environmental services contractors to head to the Expo.

"We continue to offer the premier showcase for the best products the industry has to offer," he says. "The hands-on exhibits, networking and learning opportunities make this a *can't miss* event for industry professionals."

Early registration for the Expo costs just \$50 per person (until Jan. 20, 2012). At-the-door full registration is \$70 (\$50 for exhibits only). To learn more, go to www.pumpershow.com or call 866/933-2653. **C**



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Owner Juan Carlos Garcia uses a Connectra fusion machine from HammerHead to fuse two lengths of HDPE pipe. (Photography by Patrick Botz-Forbes)

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Within three years of opening Leading Edge Plumbing & Rooter, owner Juan Carlos Garcia had significantly boosted his business by bringing in new services and technologies and offering them across a 50- to 55-mile stretch of cities in highly populated Southern California.

Garcia, who started his company after working several years for other plumbers, has a passion for the business and the challenges of growing an enterprise in a highly competitive environment. Adding cured-in-place pipe (CIPP) lining and pipe bursting has boosted his bottom line by 50 percent and has established Leading Edge as the go-to place when other plumbers need a subcontractor with the right equipment and trained technicians.

(continued)

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A pipe is readied for lining by Julio Lopez, plumber technician (left); Carlos Aguilar, pipe bursting operator; and Juan Carlos Garcia, owner.

WATCH THEM IN ACTION

To learn more about Leading Edge Plumbing & Rooter, view the video at www.cleaner.com.

Garcia attended the 2011 Pumper & Cleaner Environmental Expo aiming to add equipment. There he bought a Spartan PROvision 2.0 push camera and the Max-Cutter CIPP liner reinstatement cutter from MaxLiner USA, which he uses with his Easy Liner CIPP lining technology. From HammerHead Trenchless, he bought a Porta-Burster lateral bursting system.

When opening the business in 2008, Garcia bought a 2008 Model 4018 trailer jetter from US Jetting. "One of the best investments I ever made was that jetter," he says. "It's the machine that got me my first and most important commercial account, a food manufacturing facility.

"When I decided to start my business, I knew I needed a jetter, as this company required jetting. I said to myself, if you want to grow this business, you have to invest aggressively. I bought the jetter and went to the account and told them that I had the equipment and that I would take care of them. That was my first big opportunity."

(continued)

SMART INVESTMENTS

Before opening Leading Edge, Garcia had done plumbing for a long list of homeowners, some of whom later became his customers. Word of mouth and many referrals contributed to his early success.

Today he operates out of Sylmar in Los Angeles County in a 1,300-square-foot home on 17,500 square feet of property, but he is building a 4,000-square-foot shop and warehouse. He has six technicians who run a fleet of Ford Econoline vans that include a 2004 diesel E-450 for lining projects, a 2004 E-350

"When I decided to start my business, I knew I needed a jetter. I said to myself, if you want to grow this business, you have to invest aggressively."

Juan Carlos Garcia

for pipe bursting, a 2003 E-350 for waterjetting, and a 1995 E-350 for other plumbing work. He recently added a 1999 GMC 3500 box truck.

The business uses five SeeSnake mini-cameras from RIDGID with LCD monitors, DVD recording and 200 feet of hose. Technicians also use a RIDGID NaviTrak Scout locator.

profile

LEADING EDGE PLUMBING & ROOTER, LOS ANGELES, CALIF.

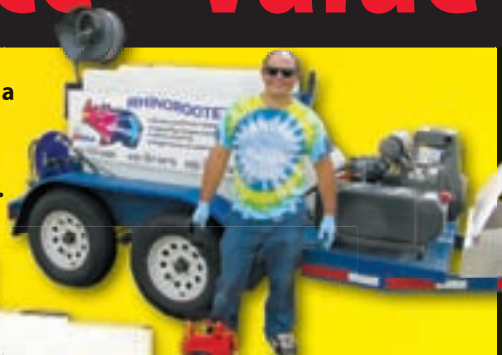
OWNER: Juan Carlos Garcia
 FOUNDED: 2008
 EMPLOYEES: 7
 SPECIALTIES: Waterjet cleaning, trenchless repair
 WEBSITE: www.leadingedgeplumbing.com



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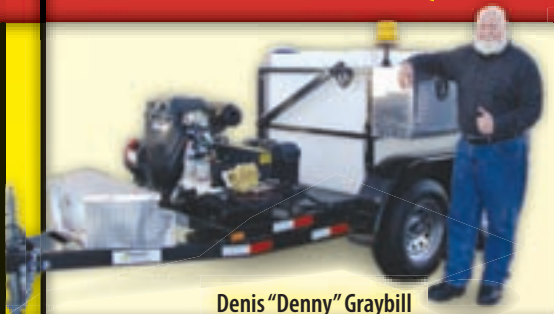
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Once the liner is impregnated with the chemicals, it is ready to be deployed. Pipe bursting operator Edwin Azucar (left) and plumber technician Julio Lopez help pipe bursting operator Carlos Aguilar.

and HammerHead have given him excellent service and support, including training. He finds pipe bursting jobs take about two hours, depending on the pipe length. With lining, measurements must be accurate, as the material can stretch. A typical project takes three hours.

Garcia typically stocks 1,000 feet of liner material in 330-foot lengths, and keeps about 120 gallons of epoxy resin, which he buys in 55-gallon barrels instead of 5-gallon buckets. For pipe bursting, he keeps about 1,800 feet of poly-

ethylene pipe on hand in 20-foot lengths.

Once he added CIPP and pipe bursting, plumbers started calling, and Garcia took on more employees to keep up with demand. While the business serves a number of economically diverse communities, most jobs come from affluent cities such as Westwood and Beverly Hills, about 22 miles from Sylmar.

“Sewer lines in Los Angeles County are primarily cast iron and clay pipe,”

“We have more people selecting lining, but pipe bursting is a more economical way to go. Liners are more profitable for us than pipe bursting, but we offer both, and it is up to the customer to decide what to do. We want them to educate themselves as to the options.”

Juan Carlos Garcia

says Garcia. “By the time the clay pipes have been in the ground 30 to 50 years, they are starting to crack and fall apart. Roots are breaking them up. Before the line collapses, we go in and restore the whole system with an epoxy liner. We do 2- to 6-inch lines.”

The typical lining job is 20 to 30 feet, but one project extended 80 feet. With the larger homes in older sections of the cities, there are alleys at the rear, and crews shoot the liner from the alley to the house. The largest commercial lining job was for 160 feet of 4-inch liner.

CUSTOMER CHOICE

Providing a choice for customers is important to Garcia. He refers prospective customers to the company website to learn the facts about the repair options. “We have more people selecting lining, but pipe bursting is a more economical way to go,” says Garcia. “Liners are more profitable for us than pipe bursting, but we offer both, and it is up to the customer to decide what to do. We want them to educate themselves as to the options.

(continued)

A PATH TO ENTREPRENEURSHIP

Juan Carlos Garcia has proven to be an astute businessman as well as a true professional plumber. Coming from Guatemala as a 15-year-old, he found work as a plumber’s helper and started in the profession that would consume his life and provide for his family.

With all the proper documentation, his license and insurance, he opened Leading Edge Plumbing & Rooter and has ventured into a variety of plumbing and remediation services. Besides mastering the technology, he set up and manages the company website, where customers can learn about the products and services he offers.

He has promoted Leading Edge through Service Magic, an online marketplace that connects homeowners with screened and rated home service professionals. A request from a consumer is sent immediately to Service Magic members in the area via email, text message, phone or pager so that they can contact the consumer directly. For each referral, Leading Edge pays a flat fee.

For Garcia, it’s all about networking, the latest in communication opportunities, friendship, technology, and the drive to be the best. He observes: “My business has given me the chance to be on top – to develop it the way I want and to be my own boss.”

INTO TRENCHLESS

Garcia also saw the importance of adding CIPP and pipe bursting, as he found himself subcontracting out those jobs. “I was giving these jobs to others and losing significant revenue,” he says. “I knew how to run the equipment. I knew that within three months I could pay for the investment. So we got the equipment and training, and we love it. It is beautiful technology.”

Garcia uses HammerHead tools for pipe bursting. He says both Easy Liner

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The Leading Edge team includes, from left, Julio Lopez, plumber technician; Carlos Aguilar, pipe bursting operator; Juan Carlos Garcia, owner; Edwin Azucar, pipe bursting operator; and Ulises Escovar, plumber technician.

“With lining, there is also just the one opening, so if there is a nice concrete driveway, the homeowner avoids the second access hole and the required repair. We always offer a way for the customer to save some money.

“There is a lot of competition for this business. That has been the big challenge for us – everybody offering the same things. Even if they don’t have the equipment, they promote it and then subcontract. And the Internet competition is growing. Plus technology is moving so fast. It’s not impossible to keep up, but you have to be willing to do what it takes and to believe that if you want to do it, you can do it. I encourage my guys to think positive.”

“If somebody doesn’t like the business, then they should find something else to do. Myself, I have a passion for plumbing. I love what I do.”

Juan Carlos Garcia

SEEKING SPECIALISTS

Finding dependable and qualified technicians has not been an issue. Some of his employees have worked with him over the years, and he can depend on their loyalty. “I know them from the past,” he says. “I know how they work and that they really love what they do. If you find somebody who enjoys what they do, everything else comes out nicely.”

While Garcia wants technicians to be familiar with all the equipment, he prefers that they specialize. There are two operators for lining, two for pipe bursting, and two for jetting. For general plumbing, Garcia usually responds. He recently employed an office manager to help with the paperwork a busy and growing company generates.

“Everything has to come through me,” says Garcia. “I know who to send. I want to send the right person – otherwise I might have to resend somebody else, and that could mean a waste of time and money. You need to have people skills. I like to explain everything to the customers so they understand it. That helps to sell the job. They will know what they need.”

Employee Julio Lopez can handle estimates in some cases, but he checks with Garcia to be sure the charges are correct. “If I think the price is too high, I will want to lower it,” says Garcia. “We have a pretty standard rate, but we don’t

want to go too high, since we have to compete against the other companies.”

MANY PARTNERS

The relationship with other plumbers is one of friendly competition, and 60 percent of Leading Edge’s business comes from subcontracting. He and other plumbing company owners socialize on a regular basis.

By the same token, when the schedule gets heavy, Garcia can call on freelance plumbers to help meet the demand. He works with at least half a dozen other plumbing contractors who want to provide Leading Edge services.

Because he most often works as a subcontractor, Garcia is careful to send equipment that does not feature the company logo. “We are working for someone else,” he says. “If anyone at a job site asks us for more information or additional services, we just refer them to the person in charge of the job. If we are doing a job for Leading Edge, we of course follow up appropriately.”

Garcia is happy with his crew. He wants people who care about the business. “A lot of people need the work, need the money,” he says. “That is good. But I want people who love what they do. Those are the people who work best. If somebody doesn’t like the business, then they should find something else to do. Myself, I have a passion for plumbing. I love what I do.” **c**

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Avoid an Identity Crisis

HERE ARE SEVERAL SIMPLE MEASURES YOU CAN TAKE TO SAFEGUARD YOUR PERSONAL INFORMATION AND PROTECT YOURSELF AGAINST THIEVES

BY ERIK GUNN



Erik Gunn is a business writer in Racine, Wis. Readers may direct inquiries to him by contacting this publication at 800/257-7222 or emailing editor@cleaner.com.

“Protect your good name,” your grandmother probably told you one time or another. She was probably talking about your reputation. These days, though, there’s a more literal meaning: Keep your name, and your bank accounts, from being stolen.

Some nine million people a year may find personal information stolen due to identity theft, according to the Federal Trade Commission (FTC). Not all such thefts lead to financial losses, but as the number shows, the risk is huge.

Just one example: In 2010, authorities in Providence, R.I., arrested a Russian man on suspicion of stealing the identity of an American who lived in Ireland. Federal prosecutors say the suspect had racked up a \$260,000 mortgage and \$14,000 in federal student loans. He also had a Social Security card in the name of the victim. According to *The Associated Press*, the suspect had been posing as the other man since as far back as 1993.

Identity thieves often use the information to commit credit card fraud, says the FTC. They might use it to open new telephone, cable, electricity or other accounts in your name, or to hijack your existing account. They can use your name to open a bank account and write bad checks on it, or take out a loan in your name.

TRICKS OF THE TRADE

Identity thieves can come by your personal data in all kinds of ways. Some rummage through your garbage for discarded bills or credit card solicitations.



Some get it by ordinary theft – stealing your purse or wallet and pulling information from your documents.

Then there are more sophisticated schemes. One is called phishing – using emails disguised as communication from a bank or credit card company to trick you into logging on to a phony website that then captures your account number and password.

Closely related is pretexting – calling you or companies you do business with and worming out your personal information by pretending to be someone such as a customer service representative of your bank, or maybe someone doing consumer research.

Then there’s skimming by retail clerks who surreptitiously enter your account information into their own memory-storage devices while processing your purchases. Some thieves may fill out an address-change form at the post office

in your name, diverting your mail to them so that they can steal information that arrives.

Identity thieves often use the information to commit credit card fraud, says the FTC. They might use it to

open new telephone, cable, electricity or other accounts in your name, or to hijack your existing account. They can use your name to open a bank account and write bad checks on it, or take out a loan in your name. Worse yet, they can tap directly into your account and drain your funds.

Government documents aren’t immune: Identity thieves have been known to obtain driver’s licenses or other identifications in the name of others, or even to file phony tax returns using your information and get a fraudulent refund from the IRS.

AN OUNCE OF PREVENTION

Scary stuff, it’s true. But experts say a little common sense can go a long way to preventing identity theft. Here are some basic measures you can take:

Be careful in giving out personal data. Never give it out on the phone to someone who has called you; only give it to someone like a retail merchant or credit card company when you have initiated the call. And never give out personal information on a wireless phone call or using an unsecured wireless Internet connection.

Be wary of emails. Never trust an email that claims to be from your financial institution or other company you do business with and asks for information like your account number or password. Reputable businesses never solicit that information via email. In fact, avoid clicking on links directly from emails you haven’t solicited. Instead, enter Web addresses for the merchants you deal with

yourself in your Internet browser.

Buy a shredder. Use it to destroy any financial records you no longer need to keep. Spend extra for one that doesn't just slice up the documents vertically but cuts them into bits horizontally as well. And those credit card solicitations that arrive in the mail? Shred them, too.

Protect your Social Security number. Don't carry your Social Security card in your wallet, and make sure it's in a secure place in your house or in a bank safe deposit box.

Keep your information secure at home. Don't make personal data easy to find for strangers in your house – whether a handyman you've hired or your daughter's new boyfriend.

Regularly check your bank and credit card accounts. Make sure you can account for every transaction you see there. Also, periodically review your credit report to make sure you know about all the transactions listed there. Some people discover they've been victimized when they see on their credit report a loan or credit card account they never signed up for.

GETTING NOTIFIED

If you take those steps, you probably don't need to sign up for expensive identity theft insurance, or even a fee-based credit monitoring service from your credit card provider. The Privacy Rights Clearinghouse notes that you can sign up free for a fraud alert on your credit reports with any of the three credit reporting companies, even if you are not an identity theft victim. You only need to call one. They are:

- Experian: 888/397-3742
- TransUnion: 800/680-7289
- Equifax: 800/525-6285

The alert requires creditors to take certain steps before opening new accounts in your name. It also entitles you to free copies of your credit reports. The fraud alert lasts for 90 days, after which you can sign up again. "Look for inquiries from companies you haven't contacted, accounts you didn't open, and debts on your accounts that you can't explain," says the FTC.

A POUND OF CURE

But what if the unthinkable happens, and you do fall victim? Report the incident immediately to the police. Doing so will make it easier to get merchants or creditors to reverse fraudulent charges. While you're at it, report it to the FTC as well by calling 877/438-4338, going online to ftc.gov/idtheft, or writing the Identity Theft Clearinghouse, Federal Trade Commission, Washington, DC 20580.

Also, report it immediately to every company with whom a fraudulent account was opened. Keep

records of all your communications about the theft and make sure to verify that the disputed account or transaction is expunged from your record. And make sure to notify the credit bureaus about the matter.

If you follow the rules laid out here, the chances you'll have to make those calls are small. And your good name can stay that way – and make your grandmother proud. **c**

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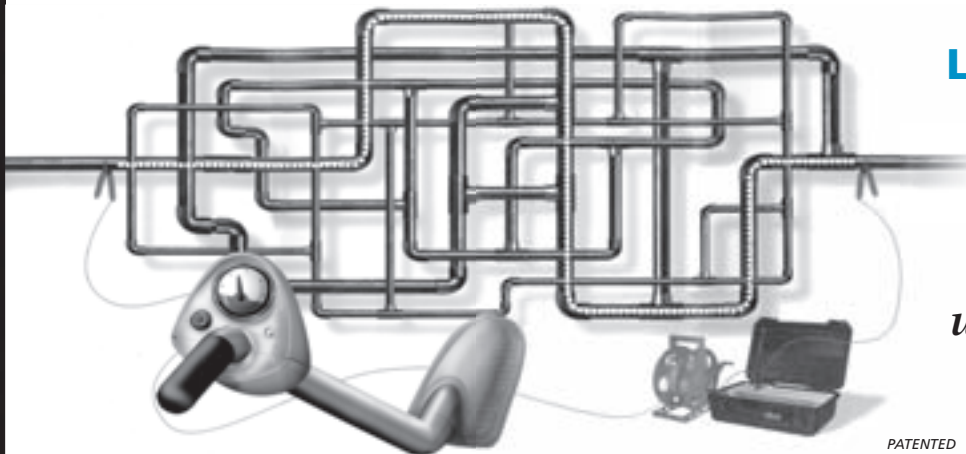


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See ad page 76							
	Amazing Machinery, Inc. 2288 Gunbarrel Rd., Ste. 154-151 Chattanooga, TN 37421 423-326-2676 TF 800-504-7435 Fax 800-504-7436 sales@amazingmachinery.com www.amazingmachinery.com		YES				
See ad page 63							
	Aries Industries, Inc. 550 Elizabeth St. Waukesha, WI 53186 262-896-7205 TF 800-234-7205 Fax 262-896-7099 sales@ariesindustries.com www.ariesindustries.com	YES		YES	YES	YES	YES
See ad page 29							
	Avanti International 822 Bay Star Blvd. Webster, TX 77598 281-486-5600 TF 800-877-2570 Fax 281-486-7300 sales@avantigrout.com www.avantigrout.com			YES	YES	YES	YES
See ad page 20							
	Bowman Tool Company & Systems 1515 Braggtown Rd. East Berlin, PA 17316 717-432-1403 Fax 717-432-0152 bowmantoolco@earthlink.net www.bowmantool.com			YES			
See ad page 50							
	CUES, Inc. 3600 Rio Vista Ave. Orlando, FL 32805 407-849-0190 TF 800-327-7791 Fax 407-425-1569 salesinfo@cuesinc.com www.cuesinc.com			YES	YES	YES	YES
See ad page 65							
	Envirosight, LLC 111 Canfield Ave., Unit B3 Randolph, NJ 07869 973-252-6700 TF 866-936-8476 Fax 973-252-1176 office@pipelinert.com www.pipelinert.com	YES		YES		YES	
See ad page 5							
	Epoxytec 5889 SW 21st St. West Park, FL 33023 954-961-4656 TF 877-GO-EPOXY Fax 954-961-2395 cleaner@epoxytec.com www.epoxytec.com	YES				YES	YES
See ad page 76							
	Global Pipeline Systems 2305 Garry Rd., Ste. A Cinnaminson, NJ 08077 215-702-7133 TF 866-513-0998 Fax 215-702-7177 tim@globalpipelinesystems.com www.globalpipelinesystems.com	YES		YES	YES	YES	
See ad page 48							
	Gorlitz Sewer & Drain, Inc. 10132 Norwalk Blvd. Santa Fe Springs, CA 90670 562-944-3060 TF 877-446-7548 Fax 562-944-7630 sales@gorlitz.com www.gorlitz.com		YES				
See ad page 49							
	Infrastructure Repair Systems, Inc. 4301 A 34th St. N St. Petersburg, FL 33714 727-327-4216 TF 877-327-4216 Fax 727-327-4118 irsi@irsi.net www.irsi.net			YES	YES	YES	
See ad page 77							
	Lansas Products 1320 S Sacramento St. Lodi, CA 95240 209-334-4115 TF 800-452-4902 Fax 209-339-8260 information@lansas.com www.lansas.com			YES	YES	YES	
See ad page 44							



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	LMK Technologies 1779 Chessie Ln. Ottawa, IL 61350 815-433-1275 Fax 815-433-0107 sales@lmkenterprises.com www.performanceliner.com	YES		YES	YES	YES	
See ad page 44							
	Logiball, Inc. 21 Long Pond Rd. Jackman, MW 04945 418-656-9767 TF 800-246-5988 Fax 418-653-5746 info@logiball.com www.logiball.com	YES		YES		YES	YES
See ad page 63							
	Masterliner Incorporated 42305 S Airport Rd. Hammond, LA 70403 985-386-3006 TF 888-344-3733 Fax 985-386-0250 jonathon@masterliner.com www.masterliner.com	YES		YES	YES	YES	
See ad page 65							
	Maxliner USA 450 College Dr. Martinsville, VA 24112 276-656-1225 Fax 276-656-0419 info@maxlinerusa.com www.maxlinerusa.com	YES					
See ad page 47							
	Municipal Services, Inc. 420 Boston Tpke, Shrewsbury, MA 01545 508-842-8901 Fax 508-842-9648 rapocushion@yahoo.com www.rap-o.biz				YES		
See ad page 61							
	NozzTeq® Inc. 1497 Main St., Unit 354 Dunedin, FL 34698 603-413-6583 TF 866-620-5915 Fax 603-413-6744 info@nozzteq.com www.nozzteq.com	YES		YES		YES	
See ad page 59							
	Nu Flow Technologies 7150 Carroll Rd., Ste. 100 San Diego, CA 92121 905-433-5510 TF 800-834-9597 Fax 905-433-9687 info@nufLOWtech.com www.nufLOWtech.com	YES		YES		YES	
See ad page 78							
	Perma-Liner Industries, Inc. 13000 Automobile Blvd., Ste. 300 Clearwater, FL 33762 727-507-9749 TF 866-336-2568 Fax 727-507-9849 info@perma-liner.com www.perma-liner.com	YES		YES	YES	YES	
See ad page 11							
	Petersen Products Co. PO Box 340 Fredonia, WI 53021 262-692-2416 TF 800-926-1926 Fax 262-692-2418 phil@petersenproducts.com www.pipeplug.com	YES	YES	YES	YES	YES	YES
See ad page 60							
	Pipe Genie Mfg. 7638 Winston St. Burnaby, BC V5A 2H4 TF 877-411-7473 Fax 604-294-5372 sales@pipegenie.com www.trenchlessamerica.com		YES	YES			
See ad page 78							
	PrimeLine Products, Inc. 309 Altamonte Commerce Blvd., Ste. 1518 Altamonte Springs, FL 32714 407-772-8131 TF 877-409-7888 Fax 407-786-8131 andy@prime-line.net www.primelineproducts.com	YES		YES	YES	YES	YES
See ad page 60							
	Quik-Lining Systems, Inc. 178 SE Lake Dr. Estelline, SD 57234 714-296-5262 Fax 866-784-4858 jheisler@quiklining.com www.quiklining.com	YES		YES			
See ad page 56							

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<p>RS Technical Services, Inc. 1327 Clegg St. Petaluma, CA 94954 707-778-1974 TF 800-767-1974 Fax 707-778-1981 sales.info@rstechserv.com www.rstechserv.com</p>	YES	YES	YES	YES	YES	YES
<p>Sekisui SPR Americas, LLC 1045 Research Center Atlanta Dr., Ste. F Atlanta, GA 30331 678-510-1820 TF 866-627-7772 Fax 678-510-1826 info@sekisui-spr.com www.sekisui-spr.com</p>	YES					
<p>Spartan Tool 1506 W Division St. Mendota, IL 61342 815-539-7411 TF 800-435-3866 Fax 888-876-2371 customerservice@spartantool.com www.spartantool.com</p>		YES				
<p>TRIC Tools, Inc. 1350 S Loop Rd., Ste. 104 Alameda, CA 94502 510-865-8742 TF 888-883-8742 Fax 510-217-9493 info@trictools.com www.trictools.com</p>		YES	YES			
<p>TRYTEK Machine Works, Inc. 250 N Main St. Jacobus, PA 17407 717-428-1477 Fax 717-428-2865 trytek@trytek.com www.trytek.com</p>	YES		YES		YES	

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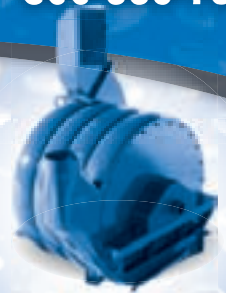


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Long Reach

A VALVE EXERCISER HELPS A FLORIDA CONTRACTOR EXPAND ITS SERVICE TO MUNICIPALITIES AND BE MORE OF A ONE-STOP SHOP

BY KEN WYSOCKY

Looking to broaden services, build new business, increase productivity and protect employees, the owners of Florida Flow Control in Wellington, Fla., decided to try a valve exercising system.

“The majority of our jobs are municipal work, with a primary emphasis on valve installations, wet taps, line stops, lift-station rehabs, flow monitoring and other water and sewer testing services,” says Felipe Lofaso, business manager.

“But to create more volume for our business, we wanted to be a full turnkey operation, and valve exercising is a logical extension of our existing services. It just made sense, since we already had the manpower and the expertise.”

SIMPLE OPERATION

The company bought a Spin Doctor valve exerciser from Hurco Technologies in June 2010. The system slides into a standard-sized hitch receiver on light-duty vehicles. It has a boom that is double-articulated, at the base and in the middle. This allows the boom to rotate up to 270 degrees around the vehicle, so that the truck does not have to be aligned exactly to reach the valve. The boom extends up to 13 feet.

“We usually mount it on a utility vehicle,” Lofaso says. “That’s how we used it when we did work at an amusement park, which has a lot of narrow areas where you can’t use a truck. When we

“Everything is programmed by computer, so there’s little chance for error. It even figures out how much torque to apply, and torque-limit settings prevent stripping. It’s usually set at about 150 pounds, which limits the potential for valve breakage.”

Felipe Lofaso

work out in the streets, we mount it on a larger pickup truck. We can even mount it on a vacuum truck. Two guys can switch it out. It only takes about 10 minutes to dismount and remount.”

A hydraulically powered, variable-torque control allows the operator to run the unit at the lowest power level required, reducing the risk of damage to valves and the key and helping to keep operators safe as well. A gauge measures and an LED readout displays the torque being applied and the number of revolutions.

“Everything is programmed by computer, so there’s little chance for error,” Lofaso says. “It even figures out how much torque to apply, and torque-limit settings prevent stripping. It’s usually set at about 150 pounds, which limits the potential for valve breakage.”

The long articulated boom comes in handy for valves in hard-to-access spots. If a valve is located away from a street and over a berm, for example, the operator can extend the boom and exercise it.

money machines

OWNER:	Florida Flow Control Inc., Wellington, Fla.
MACHINE:	Spin Doctor valve exerciser, Hurco Technologies
VEHICLE:	Attaches to light-duty truck hitches
FUNCTION:	Water valve maintenance
COST:	\$16,000



Florida Flow Control mounts its Spin Doctor valve exerciser on a light-duty utility vehicle. The boom is double-articulated, at the base and in the middle, which allows it to rotate up to 270 degrees around the vehicle—eliminating the need for exact vehicle alignment.



The Spin Doctor valve exerciser expanded Florida Flow Control's service offerings, making it more of a one-stop shop. A more well-rounded array of services helps the company compete more effectively on project bids.

MORE EFFICIENT

Before the company bought the exerciser, crews exercised valves manually, which is strenuous and time-consuming and can lead to back strains and repetitive-motion injuries. It took about 20 minutes on average to exercise each valve, and longer if the valve was frozen.

"The guys got pretty tired doing it," Lofaso says. "Now we have days where we do up to 50 valves a day. Demand for the service is on and off, but when we're in full swing, the Spin Doctor increases our net profitability by 50 percent. It's a very valuable piece of equipment for us. When we use the device, it covers our overhead cost for the day, so everything else we do with a secondary crew is pure profit. It increases our margins and productivity."

ONE-STOP SHOP

Adding services makes Florida Flow more of a one-stop shop, giving the company a better chance at winning bids: Most municipalities would rather hire one contractor and pay just one invoice.

"While we're exercising valves, we can do a line stop if there's an on-site break," Lofaso says. "If, say, an 8-inch line breaks, the municipality doesn't have to jump into emergency mode. We can react very quickly and repair it."

Lofaso sees potential for winning annual contracts to exercise valves for municipalities, which are required by a federal mandate to exercise valves regularly — about once a year. There's a strong incentive to do so because knowing where valves are and whether they are functioning improves their fire insurance ratings, he says.

"Not every municipality does a regimented review," he says. "So once we really ramp up, we feel confident that annual contracts will be a large part of our business. The equipment has definitely paid for itself and then some. If the work is there, it's a fantastic investment." c

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Flirting with Failure

A PREVIOUSLY UNTESTED SWAGED SPLITTER ENABLES A CONTRACTOR TO REPLACE A RESIDENTIAL WATERLINE IN NORTHERN CALIFORNIA

BY SCOTTIE DAYTON

Puddles alongside the front porch of a three-bedroom home in Sunnyvale, Calif., indicated a leak in the waterline. Since the spigot was dry, the homeowner assumed the problem was underground, and called Quality First Plumbing in Sunnyvale.

Technician Atanacio Francisco shut off the service at the house and utility box, then dug down 18 inches to the pipe. He found that although the ground was wet, the source of the water was not near the house.

Every inch of the yard was landscaped, leaving excavation as the last resort. Quality First owner Bob Zamaroni, a TRIC Tools affiliate for 14 years, knew the company was looking for an opportunity to test its new swaged splitter for 1-inch galvanized steel waterlines. John Rafferty, director of marketing and product support, brought the prototype to the site.

Despite stressing the PTI cable almost to the breaking point, the bursting head remained attached to the wire, broke through the couplings, and emerged in satisfactory condition with the replacement pipe.

DESIGN CONCERNS

Ward Carter, inventor and co-founder of TRIC, and Robert Ding, mechanical engineer, designed the splitting head. “The rule of thumb is that the diameter of the cable swage termination is twice the diameter of the cable,” says Carter. “We got around that by using a 6-inch-long swage fitting that is part of the splitting head, thus eliminating any mechanical connection between the head and cable.”

The next challenge was finding a cable strong enough to withstand the pull and still fit inside the host pipe, restricted by an average deposit of rust and tuberculation. The team settled on seven-strand 3/8-inch PTI wire, dead-tested to just under 8 tons.

“We couldn’t use a larger diameter because then the swage would be too large,” says Carter. “The toughest part of the pull would be not knowing if the wire was robust enough to withstand the pressure.”



Technician Atanacio Francisco from Quality First Plumbing helps guide the 1-inch HDPE replacement pipe into the pit at the start of the pull. The ACME coupling attaching the pipe to the rear of the bursting head is visible just past the spigot. (Photos courtesy of TRIC Tools)

tough job

PROJECT: Replace a leaking 1-inch waterline in a landscaped yard

CUSTOMER: Homeowner, Sunnyvale, Calif.

CONTRACTOR: Quality First Plumbing, Sunnyvale

EQUIPMENT: C25 pipe bursting system, TRIC Tools

RESULTS: Line replaced without disrupting the yard

The tool, from where the cable dives into the swage to the end of the splitting head, is more than 16 inches long. A 2-inch-long screw adapter attaches the SDR11 1-inch HPDE pipe behind the head. The pipe was approved for potable water.

The swage had to launch into the pipe straight, and the stiff wire precluded going around any bends, but the waterline connected to the house valve at a 45-degree angle. Francisco removed the fitting and enlarged the entry pit to 24 by 12 inches to accommodate the long tool.

“He barely had enough room,” says Rafferty. “The concrete porch was to his left. A low brick retaining wall with a pillar supporting the porch roof was behind him, and three irrigation lines crossed over the waterline at the point of entry.” The waterline ran 30 feet across the yard, under a fence camouflaged by flowering hedges on both sides, and to the service meter halfway to the sidewalk.

The bursting head and slitting blade after the pull. The head is flat on the bottom with the blade above it.



LEFT: Atanacio Francisco hammers the last length of galvanized pipe off the bursting head as Bob Zamaroni hangs on and pulls. The stop plate is on top of the utility box. ABOVE: Pull completed. A 2-inch-long Acme screw adaptor attaches the 1-inch HPDE pipe behind the 16-inch-long bursting head with 6-inch-long slitting blade welded at rear. Note the 2-degree bend in the cable at the swage and the length of the swage before it reaches the inverted slitting blade.

THUNK, THUNK, STOP

Francisco dug the 24-inch-square by 24-inch-deep pulling pit at the utility box, then removed a foot of host pipe to make room for the 2-foot-square by 1-inch-thick aluminum resistance plate, 4-by-6 wood cribbing, 10-inch pulley, and C25 ram with 25 tons of pulling force and 6.28 square inches of piston area. A 5.5 hp SPX PowerTeam 8,000 psi pump powered the ram.

While Zamaroni assembled the pulling components, Francisco shoved the plain end of the cable through the host pipe toward the pulling pit. The stiff wire moved along slowly until he heard a thunk and forward motion stopped. Francisco pulled back on the cable and tried again – with identical results.

Francisco marked the wire at the mouth of the host pipe, pulled it out, and used the length to measure the distance to the obstruction. He dug a small hole at the fence line and hit a double 90 in the pipe. “It was 12 inches from the pulling pit, but separated by the fence,” he says. “Cutting out that little surprise set us back about 30 minutes.”

The force of the pull extrudes the last eight to 10 feet of pipe ahead of the bursting head. “Normally, we remove the ram, chain-wrap the pipe, and yank it out with a truck,” says Zamaroni. “But we didn’t have room for such a maneuver on a residential street.” The trick was to stop the extruding pipe before the cable carried it through the keyhole in the resistance plate and under the pulley.

To avoid that scenario, Carter cut a 1/2-inch-wide slot in a 5- by 4-inch plate of 3/8-inch steel to fit ahead of the resistance plate and against the ground. It would catch the extruding pipe, while the cable continued through the keyhole and under the wheel.

NAIL BITER

To begin the burst, Francisco inserted the head into the pipe with the slitting blade down. “The 6-inch-long swage at the nose adds strength and acts like a pilot to center the tool in the pipe,” says Carter. “The inverted blade forces the ruptured metal outward like an umbrella to deflect dirt and debris.”

Zamaroni monitored the pressure gauge during the pull. “Cables, if they fail, always fail under the pulley as they go from horizontal to vertical,” he says. “That’s the point of greatest stress. To play it safe, we always deduct 15 to 20 percent of a cable’s load rating to select one strong enough to come around the wheel. We didn’t have that luxury this time.”

The pull progressed at 12 to 18 inches per minute with the pressure holding at 1,600 to 1,800 psi or 4 to 5 tons of pull. Then the blade hit the first coupling and the pressure fluctuated between 2,100 and 2,400 psi or 6.5 to 7.5 tons.

“We could see the wire strands flattening in the trough of the pulley, so we stopped and let the cable catch up,” says Rafferty. “It was good to pull slowly because we were running right on the edge of failure.”

Before the cable reached its breaking point, the blade cut through the coupling, and the pressure dropped into a comfortable range. Bursting the second and third couplings was equally as stressful.

SLOW AND STEADY

The dogleg hole enabled Francisco to watch for extruding pipe and warn Zamaroni to throttle back. When the pipe hit the stop plate, Zamaroni halted the pull and removed the plate, then repositioned the ram and resistance plate behind two 4- by 6-inch timbers. Then he eased the ram back into action, allowing the pipe to extrude into the pit as far as the pulley.

The space between the soil and cribbing provided a little window to watch for the bursting head. The galvanized pipe still attached to it went through the slot in the resistance plate and stopped just under the wheel as Zamaroni killed the power.

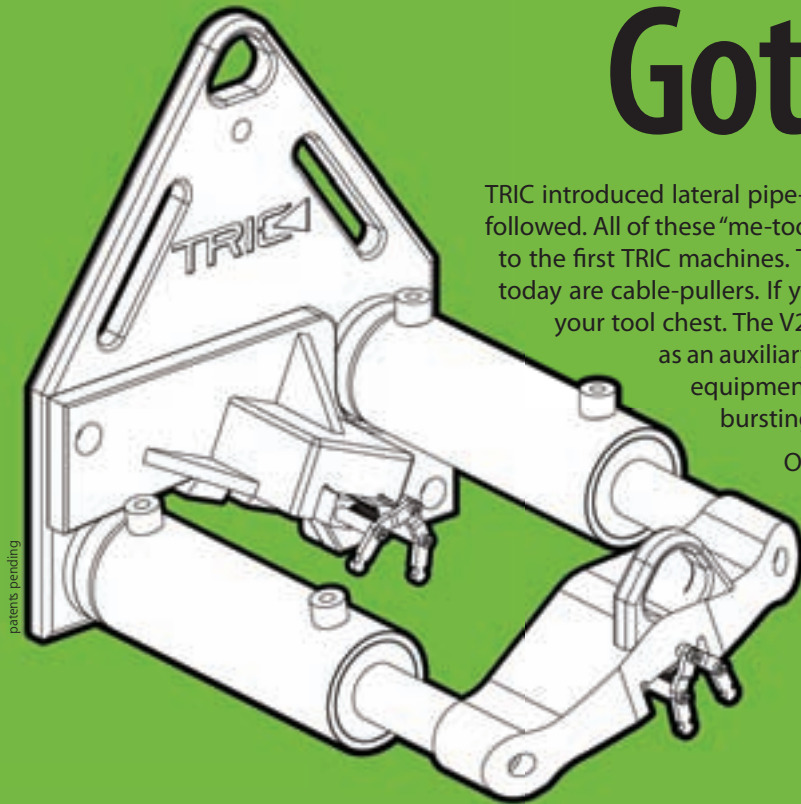
“To play it safe, we always deduct 15 to 20 percent of a cable’s load rating to select one strong enough to come around the wheel. We didn’t have that luxury this time.”

Bob Zamaroni

The team dismantled the ram, and Zamaroni grabbed the pipe and yanked it out of the hole, bringing the head and HDPE pipe along behind it. Francisco, still standing in the pit, used a 3-pound hammer to knock the pipe off the bursting head while Zamaroni hung on and pulled.

“The cable exhibited a slight helical deformation,” says Rafferty. “Cork-screwing means it was pulled harder than it wanted to be around a tight radius. PTI cable is designed only for direct pulls. We also found a 2-degree bend in the cable at the swage because we pulled the head termination just an inch too far under the wheel. However, the tool proved that it could do the job.” In four hours, the homeowner had a new waterline and his service restored. **c**

Got cable?



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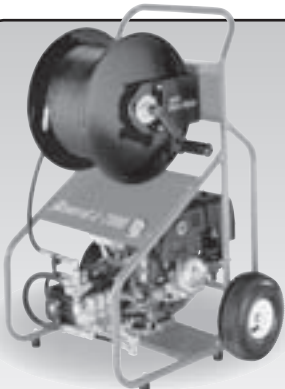
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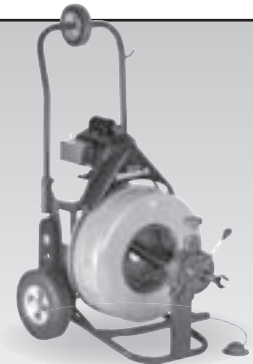
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CIPP LINING METHODS AND PROJECTS BY BRIANA JONES

FELT LINERS

Applied Felts offers a full line of **felt liners** for CIPP installations. All liners are manufactured in one location and are subjected to a multistage testing system. They meet conditions for pipes from 3 to 120 inches. Resin types include polyester, vinyl ester and epoxy, while available coatings are polyurethane and PVC. The liners configure to meet a variety of installation and impregnation methods. 276/656-1904; www.appliedfelts.com.



STREAMLINED CUTTER

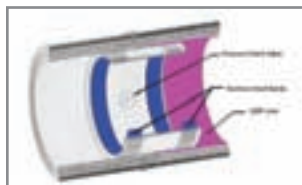
The **Dominator 430** from **Bowman Tool Company & Systems** is a 72-pound reinstatement cutter designed to operate in 6- to 30-inch lined pipe. There is no external air tube, giving the cutter a streamlined design. The head assembly is a pinion-less, quick-change design with only one adjustable gib to reduce adjustment time.



The device is configured for lateral reinstatement with the Bowman 0.8 hp or 1.2 hp crossflow air motor. Optimum performance is reached with the 2.5 hp geared air motor, which reduces reinstatement time by 80 percent. The cutter can be disassembled and reassembled in 30 minutes with the simple design with only eight moving parts. All electric motors are isolated at the end of the cutter in a watertight chamber, eliminating water damage and allowing for easy access. The cutter is manufactured from temper-hardened stainless steel and bronze to cut tough liners, including UV liners. 717/432-1403; www.bowmantool.com.

JOINT SEAL SYSTEM

The **HydraTite** internal joint seal system from **Cretex Specialty Products** is a mechanical, trenchless remediation for the repair of pipe joints. Made to eliminate infiltration and exfiltration, the system has a rubber seal that spans the joint and is held in place by stainless steel retaining bands, hydraulically expanded and locked in place. Each seal is custom-made to ensure compliance with project specifications and is a recognized method of joint repair by AWWA manual M28. 800/345-3764; www.cretexseals.com.



GROUT REHABILITATION

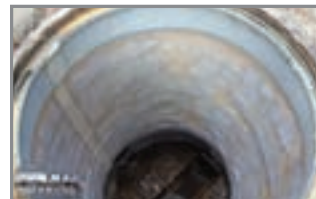
CUES portable and truck-mounted **grout rehabilitation systems** can be equipped with the latest CCTV equipment for television inspection. Applications include joint testing and sealing of mainline and lateral joints, manholes, junction boxes, large-diameter pipes, or any other low-pressure waterproofing application.

All systems can be configured to run urethane, acrylimide and acrylate grouts. Dry freight box (for export) and trailer-mounted systems are available, along with grout packers for mainline

and lateral sealing. The company also offers TV/grout/lateral reinstatement trucks as all-in-one production units. 800/327-7791; www.cuesinc.com.

AIR-POWERED CUTTER

The air-powered **Titan 150** cutter from **Envirosight** delivers 1 3/4 hp at 12,000 gpm, has two-axis articulation, and a cutter arm that reaches up to nine inches and sweeps 400 degrees. Horizontal front-cutting and variable-speed arm articulation allow for precise cutting. The unit is available with a dedicated control interface or adaptable to CUES CCTV crawler control equipment. A pan-tilt color camera provides real-time footage, while the vane motor prevents overheating. The lightweight hose gives the cutter a 400-foot crawling range. Options include diamond-impregnated Kadrian bits delivering up to 100 hours of cutting. Hundreds of bit styles are available. 866/936-8476; www.envirosight.com.



MANHOLE LINER

The cured-in-place **manhole liner** from **LMK Technologies** is a one-piece resin-saturated liner designed to renew structural defects and reduce I&T. The one-size-fits-all lining system works in cold and warm weather by adjusting resin mixtures and cure times. The liner can be installed as a structural chimney seal or full-depth CIPP manhole lining and cures in one to two hours at ambient temperatures. The cured-in-place seal resists freeze-thaw conditions. 815/433-1275; www.performanceliner.com.

INVERSION DRUM

The **MaxCannon 400** from **MaxLiner USA** is a stainless steel drum made of noncorrosive metal parts. It comes with 6-inch Storz coupling and adapters for CIPP curing with hot water or air. Overall size is 24 by 20 by 18 inches with a maximum working pressure of 36.75 psi. A 1/2-inch pressure relief valve and 1/2-inch pressure reducer are mounted to the drum. The unit installs up to 38.88 feet of 6-inch liner in one shot and is IPC and IRC compliant. 276/656-1225; www.maxlinerusa.com.



CIPP PACKERS

Multi-Flex CIPP packers from **Petersen Products** have a fixed inflated diameter independent of the pipeline to bridge across broken sections for a continuous pipe inside diameter. The lightweight packers are available in Point Repair and Lateral Joint "T" models. The Point Repair model ranges from 3 1/2- to 48-inch diameter while the Lateral Joint "T" model ranges from 4- to 24-inch mainline diameter. They are available with or without flow-through bypass. The packers are manufactured for high-temperature and severe chemical applications. 800/926-1926; www.pipeplug.com.

INVERSION EQUIPMENT

Sewer lateral lining inversion equipment from **Quik-Lining Systems** is easy to operate and makes CIPP installation simple. It comes in a compact design for use anywhere lining is needed, including basements, roofs and easements. The equipment feeds unlimited lengths of 3- to 8-inch lateral lining material. 714/296-5262; www.quiklining.com.



FIBERGLASS-REINFORCED LINERS

The **BLUE-TEK** family of fiberglass-reinforced CIPP liners from **Reline America** is manufactured in a spiralwinding process. They are design-engineered with the option of combining RA120 or RA75 glass with either polyester or vinyl ester resin. The liners work in 6- to 48-inch pipes and span up to 1,000 feet between manholes. The process requires job site mixing of chemicals or excavation, making it possible to rehabilitate damaged lines in

hard-to-reach areas. The UV-light-cured liners are installed with a tamper-proof, computerized Quality-Tracker System that documents every foot of the curing process to ensure a quality installation. The liners are ISO 9001:2008 certified. 866/998-0808; www.relineamerica.com.

PIPE RENEWAL

The **SAERTEX-LINER** from **SAERTEX multiCom** offers a tight-fitting liner with wall thicknesses of 3-12 mm. The glass fiber liner, impregnated with polyester resin, is pulled into the old pipe through a manhole and UV-cured. High-performance UV resin cures up to six feet per minute. The liner rehabilitates pipes from 4 to 50 inches. 704/584-4059; www.saertex-multicom.com. c



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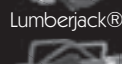

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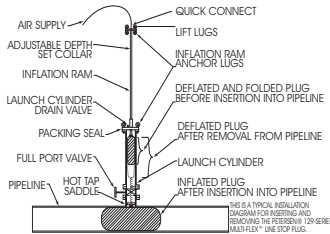


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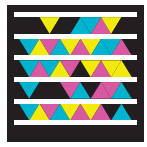


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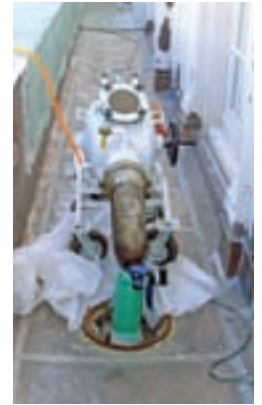
PROBLEM

A leaking cast-iron roof drain on historic Cannon House in Washington, D.C., caused water damage to office ceilings and walls. Removing the copper roof, plaster, and brick to replace it would disrupt Congressional business. The Architect of the Capital, stewards of the nation's landmark buildings, needed an alternate rehabilitation method.

SOLUTION

The Architect of the Capital selected Enviro-Flow Service Co., in Zanesville, Ohio, to televise and repair the drains using **cured-in-place pipe from Flow-Liner Systems**. Technicians using a RIDGID SeeSnake camera found leaking fittings in the drains running above the ceilings and down through a brick wall.

They impregnated the liner with environmentally friendly, nonshrink epoxy resin, loaded it into the Flow-40 inverter, transported it to the roof, and inverted the liner down the drain. The crew then shot in the calibration tube, inflated it to force the liner against the walls of the host pipe, and maintained the pressure until the resin hardened. They reinstated the end of the liner with a Dancutter tool.



RESULT

Technicians repaired the drain in one day without damaging the historical character of the 102-year-old building. 800/348-0020; www.flow-liner.com.

CLEANING ON SCHEDULE

PROBLEM

The Saratoga County (N.Y.) Sewer District wanted a cost-effective, time-saving way to clean its 333 miles of sewers and 100 pump stations every two years.

SOLUTION

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RESULT

The district is maintaining its cleaning schedule. 800/837-9711; www.superproductscorp.com.

MANHOLE-TO-MANHOLE LINING PROCESS

PROBLEM

In the 2009-10 winter, downpours increased flows at the New Braunfels (Texas) Wastewater Treatment Plant from 6 to 10 mgd – the design capacity – and four of 23 lift stations ran continuously for 36 hours afterward. An inspection by Pipeline Analysis, an engineering firm in Dallas, revealed structural issues and roots in the clay and reinforced concrete sewers. Trino Pedraza, operations and maintenance division manager, looked for an affordable answer to the city's inflow and infiltration problems.

SOLUTION


The utility purchased a 20-foot climate-controlled trailer, lateral inversion system, and **Top Gun system with Viper compact steam unit from Perma-Liner Industries**. Two crews totaling seven workers learned the process by lining 3,240 feet of 6- and 8-inch sewer mains running through a wooded canyon with no asphalt roads. The average run was 200 feet between manholes.

The workers wetted out liners in the trailer, installed the inversion unit over the manhole, and hand-fed the liner into the top of the gun to begin the inversion process. After clamping the liner to the gun's bottom lip, they blew in air at 12 to 16 psi and the liner shot down the pipe at 12 inches every 1.7 seconds.

Curing required one worker controlling the steam unit and another with a walkie-talkie at the far manhole to relay temperatures. Once both ends of the liner reached 200 degrees F, they shut off the steam and applied air at 5 psi until the liner cooled. Heating the liner took 30 to 40 minutes on average, and cooling it took 15 to 20 minutes.



RESULT

"The equipment paid for itself on the first job, so everything else is a return on our investment," says Pedraza. 866/336-2568; www.perma-liner.com. 

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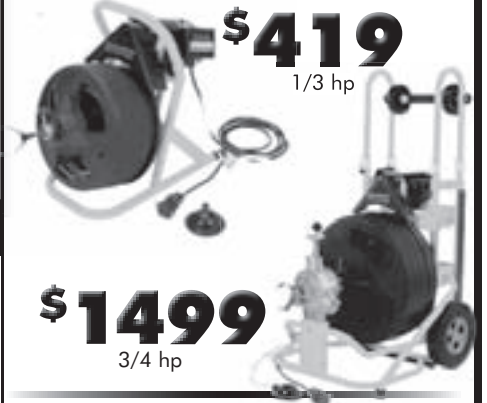
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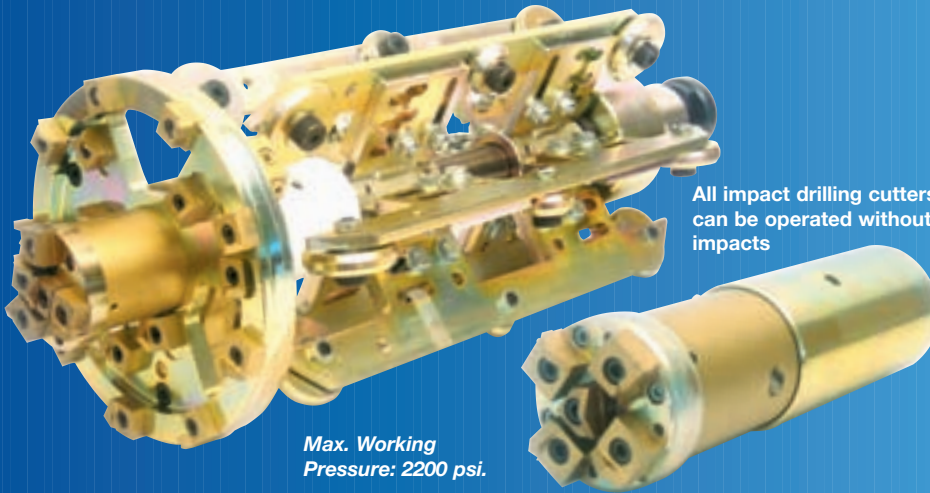


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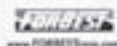
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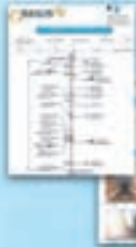
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The Other Half

KNOWLEDGE OF GOOD VACUUMING PROCEDURES CAN HELP OPERATORS GET MORE PERFORMANCE FOR THE INVESTMENT IN A COMBINATION TRUCK

BY DOUG DAY

Getting the most out of a combination jetter/vacuum truck requires homework and knowledge. After 25 years of selling equipment, sales manager Rick Lewis of MAX-LIFE Manufacturing in Stanton, Calif., says, “I’m amazed when I come upon people who invest in a product who never took the time to learn about it. You have to know your equipment, your sewer system, and the material you’re working with.”

Speaking at the Education Day seminar at the 2011 Pumper & Cleaner Environmental Expo in Louisville, Lewis shared a story of working with a contractor that had problems with a combo truck. The company had used a fan machine, which vacuums only on the surface, for years before getting a positive displacement (PD) unit. “They’d had the PD for four years, but nobody taught them their PD could be used underwater. That’s a waste of money and time.”

PD VS. FAN

The first decision is selecting a PD or fan vacuum. Fan machines dominated the combo market for a long time, but PD units now make up about 70 percent of the trucks on the road today, according to Lewis, who is also a member of the Southern Sections Collection Systems Committee.

PD vacuums are designed to work over long distances, work underwater, and most run off the truck engine. “A PD with 27 inches of vacuum moves 4,500 cfms and can vacuum 200 feet vertically and 500 feet horizontally,” says Lewis. “It can vacuum underwater all day long with a fluidizer tube.”

Fluidizers should be placed no closer than six inches and no greater than 72 inches from the surface of the liquid. “You need to get the vacuum tubes right to the bottom and get them working; you’ll get less water and more debris that way. Some trucks have the ability to shut off the vacuum with a flapper valve so you can submerge the tubes all the way to the bottom before turning it on. That lets you get debris from the bottom and put less water on the truck.”

“They’d had the PD for four years, but nobody taught them their PD could be used underwater. That’s a waste of money and time.”

Rick Lewis

HORSEPOWER

Determining horsepower needs will take some homework. “Cities need to know their systems and contractors have to know their customers. Will they need large-line cleaning or will they be doing storm drains? You need to consider all those things and find out what you’re going to be vacuuming the most. The weight of the debris will drive your decision on the sizing and getting the right horsepower.”



Fan vacuums (right) offer only air conveyance, while positive displacement (PD) units (above) offer air conveyance, pure vacuum even without airflow, and a combination of both with a fluidizing tube. Which is best depends upon how the vacuum will be used. (Photos courtesy of Rick Lewis)

You must also consider the other equipment drawing from the engine, as well. An average combo truck will have a water pump that draws around 175 horsepower, the vacuum (170 hp), hydraulics (25 hp), and you need about 15 hp for reserve power.

In his days as a contractor in southern California, Lewis says he went for the biggest. “I wanted the most horsepower I could get, the biggest PD and the biggest water pump, because there was such a variety of work. You may not need to buy a monstrous truck to handle everything.”

SIZING A PD

PD vacuums come in sizes from 15 to 27 inches of vacuum. “If we used four trucks with different sized PDs to vacuum the same slurry, you’re talking





“The tighter the system, the more true vacuum you’re going to get. It never hurts to carry extra gaskets on your truck. It’s the same with flanges; they get abused and wear out.”

Rick Lewis

about 30 to 35 seconds difference in fill time,” says Lewis. The smaller vacuums, though, may not be able to handle heavier material. “What are you vacuuming? What is the distance and how much does the material weigh?”

Proper sizing also allows you to run at lower rpm. “PDs are very efficient at lower rpm if you have adequate horsepower,” explains Lewis. “Once you start vacuuming the material, you can bring down the rpm. The vacuum will drop, but the material is still being conveyed and you’re not running the heck out of your truck. The same can be done with jetting.”

One key difference between a PD and a fan unit is that PDs don’t start working until needed. “Until a PD comes in contact with the material being pumped, it is at rest,” says Lewis. “Even though you have the truck running, the gauge will show only about 5 inches of vacuum. Once you put the tubes in contact with the material, the gauge is going to jump up to full vacuum pressure.”

The configuration of the truck also matters because every bend in the vacuum system reduces vacuum pressure. “It’s a very important factor that many people forget,” he says, noting that a vacuum’s actual performance may not equal its rated capacity. “A rough guideline is a 5 percent drop in vacuum pressure for every bend.”

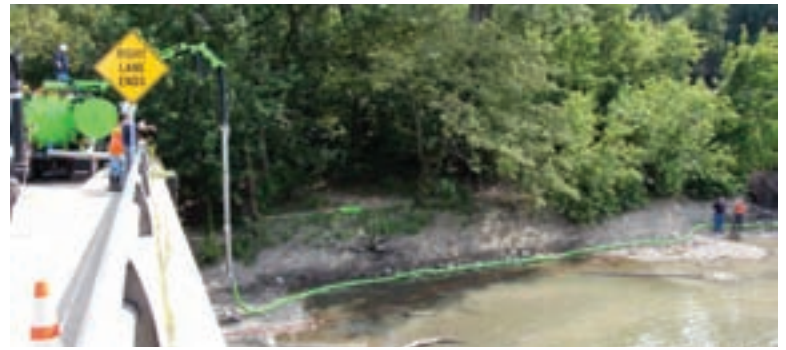
USE THE RIGHT TUBES AND USE THEM RIGHT

“I’ve had people with an 8-inch tube say they’re not fitting into the trough the same way they did with a 6-inch tube,” Lewis says. “Get a reducer and fit a 6-inch tube on there; people don’t know they can do that.”

He’s also noticed that tubes with holes at the crown end, which are needed for fan vacuums, are being used with PDs. “The holes create turbulence and interfere with the PD vacuuming,” he says. “Put some duct tape over those holes and you’ll see a difference.”

Tubes also have to be kept in good condition. “You’re asking tubes to convey material; they need to be in good working order,” says Lewis, who has seen plenty of tubes with dents and dings, missing gaskets, and patched with duct tape.

Like the tubes, gaskets and flanges are also an integral part of the vacuum system. Gaskets are among the first thing Lewis checks when he goes out on a trouble call. “The tighter the system, the more true vacuum you’re going to get.



LEFT: Gaskets are just one of the important maintenance items that need regular care and attention to protect your jet/vac truck. RIGHT: Distance matters when it comes to sizing a combination jet/vac truck. The farther the debris has to travel, the more friction the vacuum must overcome.

It never hurts to carry extra gaskets on your truck. It’s the same with flanges; they get abused and wear out.”

PROTECTING THE SYSTEM

Jet/vac trucks are a big investment, but Lewis says they generally don’t get the attention they deserve. “You need to understand how to protect your unit. It will run for years and years if you take care of it properly.”

He says the most common causes of serious problems are operator error and lack of maintenance. “The primary filter is supposed to get cleaned daily, yet nobody does it. Then they wonder why it’s not picking up like it used to.” The primary filter may be enough to protect a PD truck. Vacuuming dry material requires a cyclone separator, while a secondary filter is needed for hydro-excavation.

Relief valves must be maintained to prevent the debris tank from collapsing. “That’s why your debris tank is rated at 50,000 psi,” says Lewis. “You need the air coming in through the relief valves or your vacuum can collapse the tank; that’s the scream you hear when you vacuum.”

“The primary filter is supposed to get cleaned daily, yet nobody does it. Then they wonder why it’s not picking up like it used to.”

Rick Lewis

Relief valves are sized to the unit based on the size of the vacuum, so there could be two, six, or even eight valves. They do wear out and springs can get rusted, so they have to be checked and maintained. “Do not try to rebuild one,” he warns. “Take the top off the valve and that spring is going to come out right at you and cause injury.”

PD lubricant levels must be maintained by regularly checking the oil level sight glasses. It also must be the proper kind of oil, nondetergent and nonfoaming. “Put regular motor oil in there and you’re going to have a real problem. So read the manufacturer’s recommendation. The sight glasses are supposed to be half-full when the PD is not running. They will go full when it is running.”

The oil breather is another maintenance item that is often ignored. “Vapor comes out and dirt will build up on the breather,” he says. “Make sure it’s clean, especially when working in dusty environments or driving on unpaved roads.”

For a fan unit, the critical component is the edge of the blade. If they get chipped, the fan will lose its ability to move air and vacuum pressure can quickly diminish to unacceptable levels.

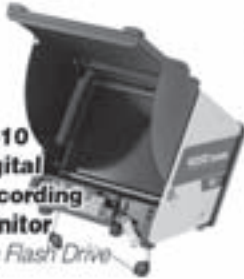
Know what the customers need, understand the truck and its equipment, and follow proper maintenance guidelines; Lewis says those actions will ensure that an investment in a jet/vac combo truck pays off for years to come. **C**

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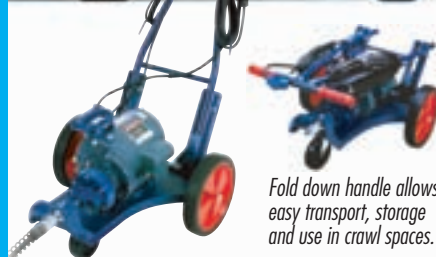
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BY ED WODALSKI

The DM138 drain cleaning machine from Duracable Manufacturing Co. is made to clean lines from 1 1/4 to 3 inches. It has a continuously welded frame, heavy-duty front bearing mount, and self-aligning head bearing to ensure proper reel placement, long life and quick reel change.

“There are two thumb screws on either side of the head bearing that enable the technician to easily unscrew them and change the 14-inch (polyethylene) reel with 90 feet of 3/8-inch cable into an 8-inch reel with 37 feet of 1/4-inch cable,” says Michael Heilbronn, account manager. A 14-inch reel with 90 feet of 5/16-inch cable also is available, along with a 3-foot-long guide tube to protect tubs, sinks and other surfaces from the cable.

Designed for residential sink, shower and bathtub drains, the machine has a heavy-duty, 20-amp switch and revolving arm. Powered by a 1/4 hp motor that operates at 230 rpm, the machine weighs 22.5 pounds



with 7.75-pound, 14-inch reel.

The machine can be operated in the upright or horizontal position and has nonmarring rubber pads to protect the floor. A safety air foot pedal is standard, enabling the technician to use both hands to guide the cable. **800/247-4081; www.duracable.com.**

NLB INTRODUCES 605 SERIES WATERJET PUMP

The 605 Series waterjet pump from NLB Corp. combines ultrahigh pressure and high horsepower in a rugged unit with eight operating pressures from 4,000 to 40,000 psi, flows as low as 20 gpm and engines up to 600 hp. Diesel and electric models are available. **248/624-5555; www.nlbcorp.com.**



airflow of 5,800 cfm at 28 inches Hg. Features include single-engine design for lower fuel and maintenance costs and onboard boiler with 714,000 Btu/hour capacity. Winter recirculation, antifreeze and air-purge systems ensure performance in the harshest of climates, while the heated aluminum cabinet offers easy access and increased storage. Other features include a debris body that can tilt two feet for faster offloading and wash downs. **800/837-9711; www.superproductscorp.com.**

RIDGID INTRODUCES SEESNAKE CS-10 DIGITAL MONITOR

The one-touch SeeSnake CS-10 digital monitor from RIDGID can record still images and video. It features video and image playback and auto-log recording, which compresses files to help save memory on the USB thumb drive. The monitor comes with SeeSnake HQ software and DVD burning or uploading to RIDGIDConnect. The 12.1-inch monitor has enhanced daylight readability and comes with an 18-volt lithium-ion battery. **800/769-7743; www.ridgid.com.**



NEWSON GALE INTRODUCES VESM02 CABLE REEL

The VESM02 cable reel from Newson Gale Inc. is designed to provide secure static ground protection for difficult field applications, such as tanker trucks and mobile tanks or drums. The self-retracting reels are housed in durable, lightweight steel with powder-coated finish, suitable for use outdoors or indoors, per NEMA 4/IP56/ingress protection. The reel has 50 feet of Cen-Stat Static-Dissipative Hytrel protected cable with adjustable stop ball. **732/961-7610; www.newson-gale.com.**



SUPER PRODUCTS INTRODUCES MUD DOG 1600 HYDROEXCAVATOR

The Mud Dog 1600 hydroexcavator from Super Products LLC is designed to meet the excavation challenges inherent in oil field, mining and cold-weather applications. The unit has a 16-cubic-yard debris body, 1,500-gallon water capacity and rear-mounted boom with 335-degree rotation and the ability to pivot down 25 degrees for eight feet of extra digging and access to hard-to-reach areas. The hydroexcavator delivers up to 18 gpm of water pressure at 3,000 psi in combination with an 8-inch positive displacement vacuum system that provides



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DFense Blok wearing compound from ITW Devcon is an alumina ceramic bead-filled epoxy compound that, when used with DFense Blok Surface Wetting Agent, increases drop impact strength. It can be used in the repair, rebuilding and protection of pipe elbows, scrubbers, ash handling systems, cyclones, fan blades, pump boxes, float cells, screw conveyors, augers and other abrasion applications. Available in 30-pound pails, the product is mixed 2:1 and has a working time of 25 minutes at room temperature. A nonsagging compound, it can be applied by trowel at a thickness of 3/4 inch on vertical surfaces and 1/2 inch on overhead surfaces. It achieves

functional cure in 4-5 hours and can withstand temperatures up to 300 degrees F. 800/933-8266; www.devcon.com.



GAPVAX INTRODUCES XVT INDUSTRIAL VACUUM

The XVT industrial vacuum from GapVax Inc. is designed to remove heavy sludges, such as drilling fluid, grease, septic and wastewater. The positive displacement blower can pressure offload up to 14 psi (rated 1,400 cfm and 28 inches Hg).

The body is made of 1/4-inch ASTM A-572 Grade 50 steel with a payload option from 80 to 100 barrels and 40-degree dump angle. The filtration system has a 10-micron washable Dacron filter and requires no tools to access. The unit has a full-opening tailgate with dual-lift cylinder and field-adjustable locks for a complete seal. Options include hydroexcavation package, lift axle, integral water tank, safety lighting, storage compartments and heavy-duty rear bumper. 888/442-7829; www.gapvax.com.

MAX-LIFE INTRODUCES VAC TRAP GRIT CATCHER

The Vac Trap grit catcher from MAX-LIFE Mfg. Corp. features a 6- to 24-inch throat for easier connection to vacuum tubes and a back stop-leg that prevents the device from becoming stuck in a pipe. The grit catcher connects to any combination vacuum cleaner tube. 888/873-6295; www.flexmax.com.



SERIOUS THERMAL INTRODUCES GROUND-THAWING MACHINE

The Serious Toaster ground-thawing machine from Serious Thermal Products Ltd. thaws up to 1.6 inches deep per hour in a 2-foot by 10-foot area. Multiple units can be placed in a series or other configuration to accommodate larger applications.

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Ultimate-duty jetter hose reels from Reelcraft Industries Inc. hold up to 500 feet of 1 1/2-inch-diameter hose. Reels feature a carbon-steel, heavy-duty, fully welded spool and frame with heavy-duty bearings. The design offers the strength of a single piece of metal, superior bearing support and perfect alignment without

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TMX Towable Mini-Excavators from Innovative Equipment feature a quick-on and quick-off hitch system and zero-turn technology for access in tight locations. Available in gasoline or diesel models, the excavators can be towed by a 1/2-ton pickup, van or light-duty tow vehicle. No trailer is needed and no CDL license is required. Lockout hubs enable towing at up to 65 mph. Weighing 2,941 pounds, the excavator has an 8-foot digging depth, 6,600-pound digging force and 7-foot, 2-inch loading height with swing radius of 140 degrees. It also has a 72-inch, four-way blade system with 21 degrees of tilt. 715/359-3002; www.tmx-excavator.com.



STONEAGE INTRODUCES BANSHEE PROTEX SPLASH GUARD

The Banshee ProTex splash guard from StoneAge is designed to keep operators of handheld flexible hoses safe from the potential hazards of using high-pressure waterjets. The guard can be used with any Banshee rotary nozzle. The antiwithdrawal collet adjusts to fit many hose sizes. A 3-foot-long tube for use with a stinger is available. 866/795-1586; www.stoneagetools.com.



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Optically bonded monitors from TRU-Vu Monitors are designed for viewing LCD, LED and plasma displays on bright, sunny days. Optical bonding injects a clear, optical-grade resin into the gap between the LCD panel and protective outer glass, filling the air gap between the two and eliminating two reflective surfaces. An antireflective coating is applied to the outside of the protective glass, minimizing surface reflections by 98 percent. It also prevents the monitor's contrast ratio from deteriorating. 847/259-2344; www.tru-vumonitors.com.

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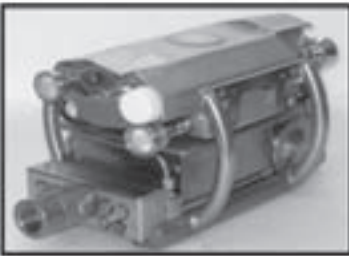
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GORMAN-RUPP NAMES KNUDSEN EASTERN DISTRICT MANAGER-ENGINEERED SYSTEMS

The Gorman-Rupp Co., Mansfield Division, named Eric Knudsen eastern district manager-engineered systems. He will cover Maine, Vermont, New Hampshire, New York, Massachusetts, Connecticut, Rhode Island, Delaware, Maryland, Pennsylvania, Virginia, West Virginia and North and South Carolina. Based out of Clifton Park, N.Y., Knudsen has 15 years experience in the municipal and industrial pump market.



Eric Knudsen

LARSON, LONG JOIN VANAIR

Blair Larson has joined Vanair as regional sales manager for the Western Region and Steve Long has joined the company as a service technician. Long brings 20 years experience to his position. Larson has an associate degree in business from Indiana Wesleyan University and is pursuing his bachelor's degree.

TECHSPRAY ADDS CHEMIST, LAB EQUIPMENT

Techspray added chemist Lindsey Shehan and new cleaning equipment for benchmark testing, expanding the company's degreasing product research and development capabilities. Shehan, working in the company's Amarillo-based R&D lab, is responsible for tracking regulations, product testing and special projects. She has a bachelor's degree in chemistry from Texas A&M University and is a member of the Surface Mount Technology Association (SMTA).



Lindsey Shehan

RS TECHNIK, INLAND PIPE FORM LICENSING AGREEMENT

RS Technik formed a licensing agreement with Inland Pipe Rehabilitation (IPR) for its RS BlueLine pipe rehabilitation system. The agreement gives IPR the rights to repair pressure pipelines throughout North America utilizing the proprietary trenchless system.

SPARTAN TOOL LAUNCHES CUSTOMER SERVICE WEBSITE

Spartan Tool LLC launched a customer service website, www.spartantool.com. The site enables customers to purchase drain cable machines, waterjetters, inspection cameras and trenchless pipe removal systems as well as replacement parts for all products. It also features product videos and product manuals, including multi-language Spanish and French versions.

GARDNER DENVER NAMES ROUGIER TO SALES TEAM

Eric Rougier joined the Gardner Denver Water Jetting sales team. He will be responsible for accounts in the Middle East and Africa. Rougier is fluent in English, French and Spanish and has 11 years experience in the company's customer service department.



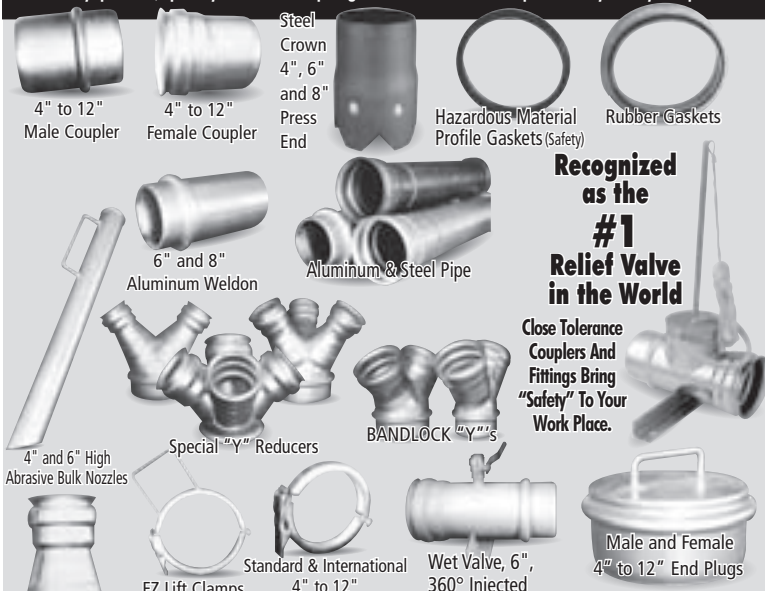
Eric Rougier

KEG RELOCATES TO SOUTH CAROLINA

KEG Technologies, Inc. moved their office and distribution center to Spartanburg, S.C. The larger facility provides more space for extensive product testing, classroom and video webinars, a repair shop and a live outdoor training area simulating actual pipe conditions. For more information email info@kegtechnologies.net. c

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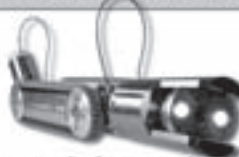


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Cues CCTV/laser profiler, 2003 E450 7.3 diesel, auto transmission, diesel generator, Oz 2 P&T cam, Granite software, Clear Flow ultra shorty transporter, steerable pipe ranger with cam lift, power winch, power cord reel, top hole and down hole rollers, bumper crane. All necessary equipment. \$40,000. Email or call for more info and photos. Flpipetec@bellsouth.net or 904-284-2141 FL. (C10)

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Cues CCTV insp. 1999 E450 V10 engine, auto transmission, hi-cube P&T, Night Owl cam, shorty transporter, skids, power winch, 500' power cord and reel, inclinometer, Onan generator, roof A/C, top hole roller, down hole rollers, all necessary equipment. \$30,000. Call or email for info. and photos. Flpipetec@bellsouth.net or 904-284-2141 FL. (C10)

TV INSPECTION

2005 RST video truck, 1996 RST video truck, 1996 Vac-Con On Ford body. All equipment associated. Call Ken Ring 904-993-5211 FL. (C10)

Cues Inspector General portable unit for main line 6" to 30" and min. push reel for 3" to 6" service lines, DVD recorder, Cues Pro Data, footage, keyboard, skids, P&T, min. camera, hand controller, portable Yamaha generator, hand winch. A TV inspection truck in a box! \$14,000. Email or call for more info. and photos. Flpipetec@bellsouth.net or 904-284-2141 FL. (C10)

VACUUM LOADERS

1998 Sterling cab & chassis with a Cusco Mastervac 3800 wet & dry industrial loader. (Stock #5088C) www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648). (C10)



1990 International Vector: 72,500 miles, 16" Roots blower, 10-speed, 8" boom, dependable.....\$24,500
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1999 Sterling cab & chassis with a Cusco Turbovac 3800 industrial loader with a jetting system. (Stock #3163C) www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648). (C10)

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). (C10)



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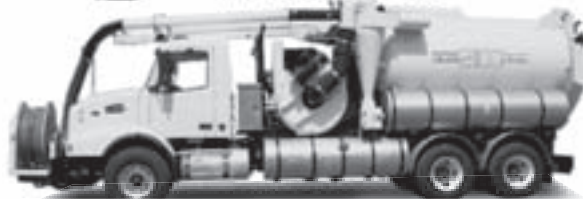
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“I’ve Been Sued”

DON'T PANIC. TAKE A FEW COMMON-SENSE STEPS AND YOU AND A LAWYER CAN RESOLVE A LAWSUIT AS PAINLESSLY AS POSSIBLE.

BY FRED S. STEINGOLD

A process server may hand it to you, or it may arrive by certified mail. But however it gets to you, a summons notifying you that you've been sued is bound to raise your blood pressure. Of course, being sued is never pleasant, but it's often more of a nuisance than a catastrophe. And by knowing the rules, you can greatly improve your chances of winning.

As a first step, check the summons to see how long you have to respond. Typically, you'll have 21 days or so to file an answer. That's a key deadline:

What if you're unable to settle the case or to resolve it through mediation or arbitration? You and your lawyer will have to develop a defense strategy. See if you can score a knockout in the first round. There may be a legal reason to have the judge throw out the case.

If you miss it, the plaintiff can have a judgment entered against you by default. So plan ahead. If you're about to leave on a three-week trip to Australia, call the plaintiff's lawyer to ask for an extension. Such requests are almost always granted, but get confirmation in writing.

The summons will be accompanied by another document, usually called a complaint, telling what the case is about – perhaps a business contract, or possibly an injury that someone suffered on one of your work sites, or a firing that a former employee feels was improper.

To defend a case that's more than a minor claim in small claims court, you'll probably need to hire a lawyer. But if the claim is covered by insurance, the insurance company will hire the lawyer and pick up the tab. Review the complaint with insurance coverage in mind. Depending on your policies, you may be covered for car and truck accidents, slip-and-fall claims, product liability, defamation, loss of a customer's property, and errors and omissions. If the claim is covered, notify the insurance company promptly so they can take over.

EARLY RESOLUTION

Sometimes you can resolve a case even before you file an answer. If you and the plaintiff are not far

apart on the dollars involved, or if the case is minor and defending it will be a big hassle, try to negotiate a settlement.

If that doesn't work, you can suggest that the dispute be mediated or arbitrated. In mediation, a neutral third party (mediator) works with you and the plaintiff to try to achieve a voluntary settlement. In arbitration, a third party (arbitrator) is empowered to make a binding decision.

In many business contracts, the parties agree in advance to submit any dispute to mediation or

arbitration. If your lawsuit doesn't trigger such a contract clause, you and the plaintiff can still agree to handle the dispute that way even though the lawsuit has already been filed. Mediation and arbitration are usually quicker and cheaper than lawsuits, and the proceedings are private.

STRATEGIC MOVES

What if you're unable to settle the case or to resolve it through mediation or arbitration? You and your lawyer will have to develop a defense strategy. See if you can score a knockout in the first round. There may be a legal reason to have the judge throw out the case.

For example, maybe the plaintiff filed the case after the statute of limitations ran out. Or maybe the law in question requires a written contract and none was signed. Or perhaps the plaintiff is proceeding on a novel legal theory that is not accepted by the courts in your state. Such factors can bring an early dismissal of the lawsuit.

Also, consider filing a counterclaim. Maybe the plaintiff owes you money but you'd decided not to start a lawsuit to collect it. But now, since you're already in court, it may make sense to sue the plaintiff back. Sometimes a counterclaim will cancel out the plaintiff's claim, or even put money in your pocket.



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.

NO SURPRISES

In all but the smallest cases, each side has the right of pretrial discovery, a process in which you each learn the details of the other side's position. There should be no surprises at trial. To learn about the plaintiff's evidence, you can:

- Send written questions that the plaintiff must answer in writing and under oath.
- Require the plaintiff to orally answer questions asked by your lawyer (a process called taking a deposition).
- Force the plaintiff to show you and let you copy any letters, contracts or other evidence related to the lawsuit.
- Gain access to the plaintiff's business place to inspect and photograph any equipment or property condition that may be involved in the lawsuit.

If the plaintiff is claiming your business caused a physical injury, you can require an exam by a doctor of your choosing. In short, you can delve into every nook and cranny of the plaintiff's case, although the amount you spend to do this should be in proportion to what is at stake. Obviously, it makes no sense to spend \$20,000 on pretrial discovery if your maximum exposure is \$10,000.

LAST CHANCE TO SETTLE

To unclog court dockets, judges in many states make a final attempt to resolve lawsuits without a trial. In one state, for example, judges routinely have cases reviewed by a panel of three experienced lawyers. The plaintiff and defendant each take 10 or 15 minutes to present their position to the panel, which then recommends a settlement amount. A party who rejects the panel's recommendation and then does poorly at trial may have to pay some of the other side's legal fees.

The risk of having to pay additional costs can be a powerful incentive to settle a lawsuit. Other states use similar methods to head off trials. One way or another, more than 95 percent of lawsuits get settled without a trial. **C**

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