

FOR DRAIN AND PIPE CLEANING, INSPECTION AND REHABILITATION PROFESSIONALS

# Cleaner®

JULY 2019  
CLEANER.COM

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## A Perfect BALANCE

CALIFORNIA CONTRACTOR  
FINDS SUCCESS THROUGH  
CAREFUL GROWTH AND  
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General Plumbing and Rooter owner Ray Ramirez was one of the first in northern California to invest in pipe bursting and repair equipment. Leaning into trenchless methods has allowed the company to grow its revenue even with a downsized staff. (Photography by Collin Chappelle)

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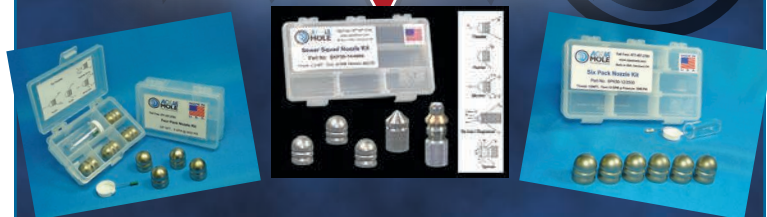
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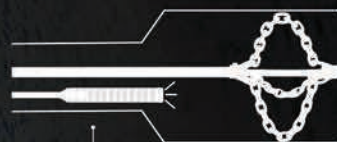


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# Take a Break

It's hard to admit you might need some time off, but a little break can help both you and your business

**E**arlier this year, one of our most-read and most-shared posts on Cleaner.com was an article about how to put the joy back in your work if you're suffering from burnout.

I was a little surprised, I guess because burnout is (stereotypically) associated with lawyers and finance types who work 100 hours a week to try to make partner and flame out. But obviously this image is no longer true.

Anyone with a job, even if it's work they genuinely enjoy most of the time, can suffer from burnout. As the article says, drain cleaners aren't always seeing customers at their best moments. The demand



Kim Peterson

of spending every day solving someone else's problems as quickly as possible, often with little thanks and complaints about the bill, can be exhausting. And when you work in a service-based industry, you always need to be "on" and show up with a positive attitude if you don't want to be slammed with negative reviews online.

It can be difficult to admit you're feeling burned out, especially if you run your own business. You probably feel like you can't take a break, even if you absolutely need one. Attitudes like "work is supposed to be hard" and "I'll sleep when I'm dead" get ingrained in us, and admitting you could do with a day off can seem like admitting defeat.

But there are serious health ramifications, both mental and physical, to burning the candle at both ends. You won't be any good to your business, your employees, your family or yourself if you work to the edge of a breakdown. Taking care of yourself is important too.

The authors of the article ("How Burnt-Out Drain Cleaners Can Put the Joy Back Into Their Work") outline four tactics to reenergize yourself and start enjoying your job again. You can read their tips on Cleaner.com.

Avoiding burnout in the first place is ideal, but it's not always easy. Sometimes a little change of pace is all it takes to get you inspired again. Go take a class, go to your state association conference, or take a manufacturer up on the in-house equipment training they've been offering you.

Maybe start doing some market research on a new service you've contemplated offering or spend some time browsing manufacturer websites if you need some new equipment.

An actual vacation might not be a bad idea either. Taking a step away, even if it's just for a long weekend, is sometimes all you need to come back feeling fresh and ready for the next challenge.

One hurdle to taking a break is not having anyone to take over when you're gone — or being unable to relinquish control, even when you know your team manager and employees are perfectly capable.

If you're one of those people who has a hard time letting go and allowing others to handle some of the workload for you, check out the Just Business column this month from fellow drain cleaner Michael Williams. He talks about the importance of getting your successors involved in the business before something unexpected forces them into it. After all, you hired and trained them; they know what they're doing.

Keep others in the loop so you have help you can rely on, and you'll feel much better about taking your well-deserved break.

Enjoy this month's issue. **c**

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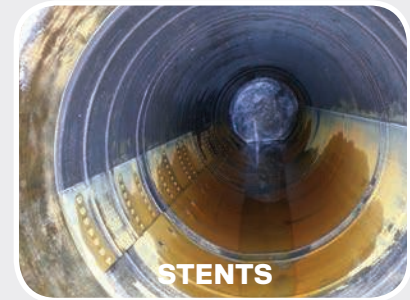
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## TEAMWORK

### How to Strengthen a Weak Link

Anyone who's in the workplace long enough eventually runs into a co-worker who doesn't pull their weight. Constantly covering for their deficiencies isn't a proper way to address that, but simply complaining to your supervisor doesn't necessarily solve the problem either. This online exclusive looks at a better approach to take. [cleaner.com/featured](http://cleaner.com/featured)



## A HELPING HAND

### Using Subcontractors to Achieve Business Success

In this industry there is oftentimes a push for diversification. A desire to be a one-stop shop equipped to handle anything a customer might need. But that approach isn't the right fit for everyone. Read about these companies that have found success incorporating subcontractors into their regular business practices. [cleaner.com/featured](http://cleaner.com/featured)

## EMPLOYEE BUY-IN

### What To Do When Your Team Pushes Back

You may have some crewmembers who constantly question your established policies, but that doesn't mean that it's impossible to get them to fully believe in the company culture. Read more about tactics you can use in this online exclusive.

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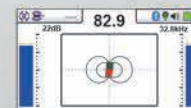
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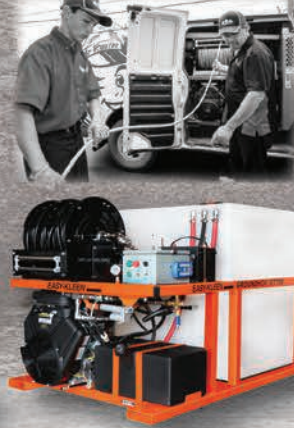


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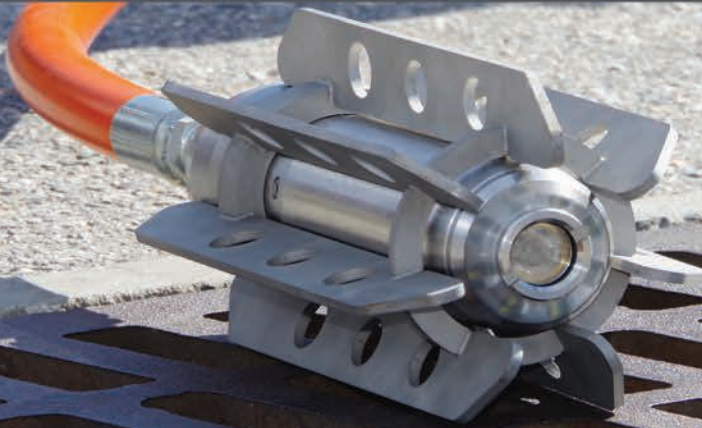
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# A Perfect BALANCE

California contractor finds success through careful growth and shifting service priorities

By Jared Raney // Photography by Collin Chappelle

**A**t its peak growth, Ray Ramirez's company had 12 technicians — but in 2018, they reached milestone revenue with less than half that number.

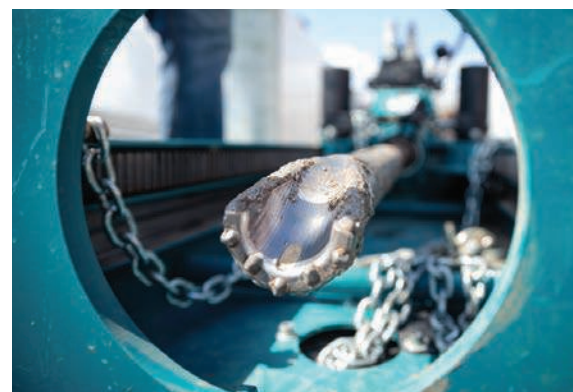
“One of the reasons I decided to keep fewer technicians is because it's easier to manage the technicians, and it's easier to manage all the expenses,” Ramirez says. “It's not necessarily by having more technicians that you're making more money. With fewer technicians, we generated more revenue than with 12.”

The company, General Plumbing and Rooter, is a plumbing service and repair contractor in the San Francisco Bay Area in Northern

California. Last year, they broke the \$2 million revenue mark after several years of staff optimization and shifting the company's primary services to drain cleaning and pipe bursting.

Downsizing his staff helped achieve a perfect equilibrium for maximizing profits, but it wasn't solely adjusting his roster that boosted revenue for Ramirez. Over the past year, he has also prioritized drain cleaning over his other plumbing services, shifting from 60% plumbing to now 65% drain cleaning.

While plumbing services, including drain cleaning, make up a good portion of the company's services, Ramirez has also focused on repair and replacement. Leaning into trenchless methods, primarily



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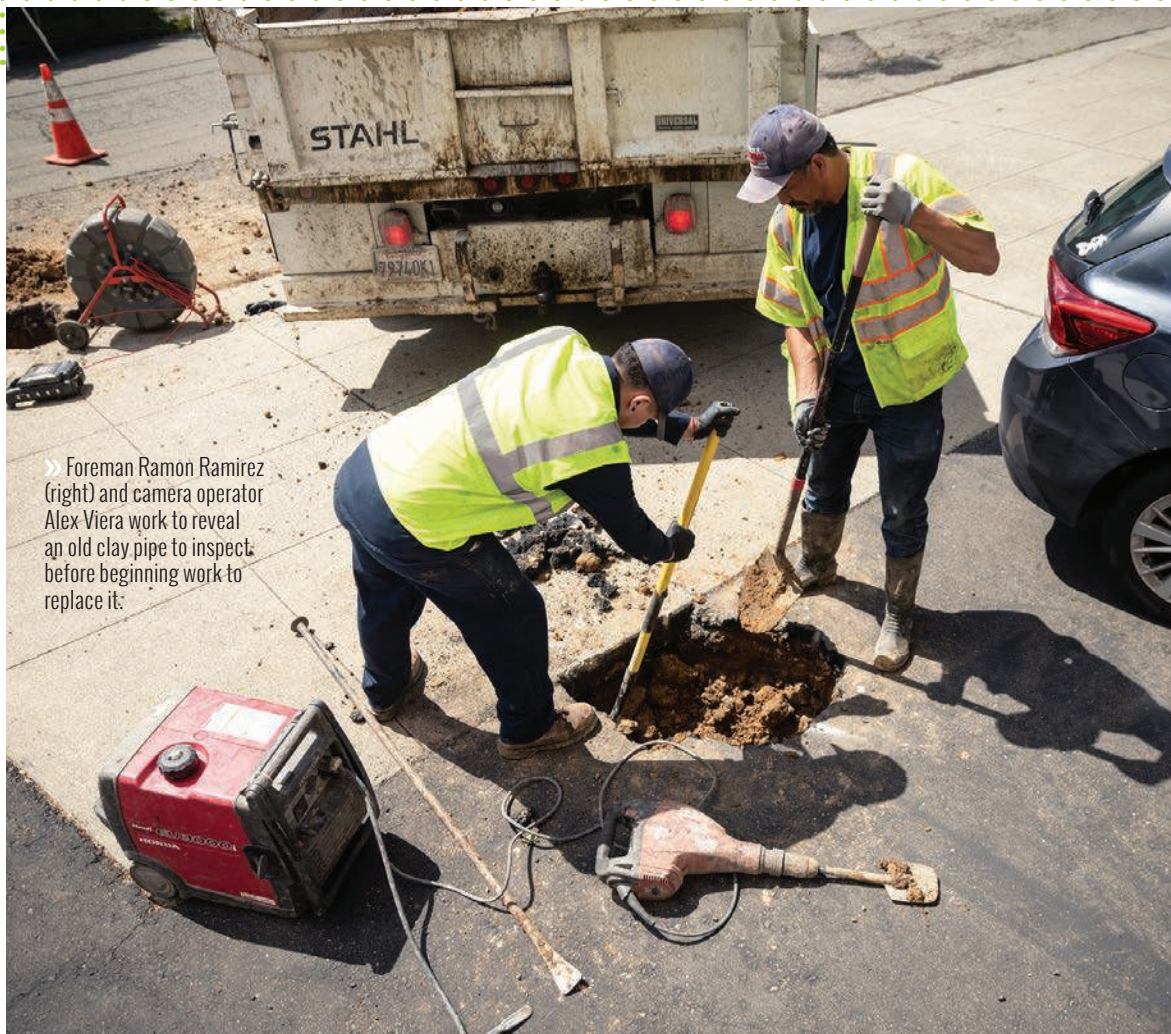
◀ Owner Ray Ramirez was one of the first in the area to invest in pipe bursting and repair equipment including the RODDIE Pit Shot.

➤ General Plumbing and Rooter Foreman Ramon Ramirez digs an access pit to locate and replace an old clay pipe outside of an apartment complex in Oakland, California.

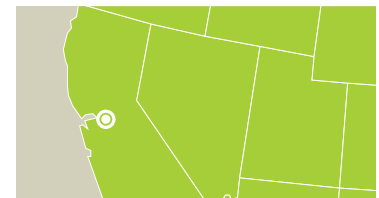


“I really like the challenge -  
being able to find a leak that  
**nobody else could find**  
or replace a line that some  
people just walked away from.”

Ray Ramirez



» Foreman Ramon Ramirez (right) and camera operator Alex Viera work to reveal an old clay pipe to inspect before beginning work to replace it.



## General Plumbing and Rooter

**LOCATION:** Antioch, California

**OWNER:** Ray Ramirez

**FOUNDED:** 2004

**EMPLOYEES:** 14 – 5 service technicians, 4 on a trenchless crew (2 specialists and 2 helpers), 3 office staff, 1 sales specialist/field supervisor, 1 video inspector/estimator

**SERVICES:** Drain cleaning, plumbing services, video inspection, pipe repair/replacement, pipe bursting, directional drilling

**SERVICE AREA:** San Francisco Bay Area: Contra Costa and Alameda counties

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

pipe bursting, has also allowed the company to grow its revenue while maintaining the smaller staff.

### INNOVATION EQUALS PROFIT

“I’ve always liked the idea of doing pipe bursting,” Ramirez says of the trenchless specialty. “Pipe bursting equipment can save a lot of time, money and energy.”

A preference among inspectors for pipe bursting has made it a preferred method in his service area, putting his specialization in high demand.

“I have some acquaintances in other states, and they’re not sure what pipe bursting is, even in the U.S.”

Ray Ramirez

“Around 2005, I purchased my first pipe bursting equipment. A few friends who were plumbers, working for themselves, started calling me to do their pipe bursting,” Ramirez says. “Then obviously I was doing jobs for my company, for myself.”

Ramirez has been a committed customer of RODDIE, investing in two of their pipe bursting systems over the years. He started with

the R2 system, which worked so well for him that he also purchased the RX-30. When his brother, who had worked with him for 12 years, decided to branch off and start his own company, Ramirez sold him the R2, along with some other older equipment. His brother liked it so much that he later bought himself an RX-30 too.

Assisting in his trenchless work is an LD-12 leak detection system from SubSurface Instruments and a Pit Shot directional drill, also from RODDIE.

Pipe bursting and trenchless has done so well for him that Ramirez would like to help promote it across the broader industry.

“I’m very familiar with pipe bursting, and I think there are some states, there are some countries, that can benefit from pipe bursting,” he says. “I have some acquaintances in other states, and they’re not sure what pipe bursting is, even in the U.S. They don’t know anything about pipe bursting; they don’t know anything about trenchless. So I would love to make time to show this equipment to more people so they can benefit from it.”

### HOOKED ON SERVICE

Upon opening for business in 2004, the most lucrative avenue for Ramirez became servicing for home warranty companies. During the home-buying boom of that time, the work was gangbuster. Of course, it didn’t last long.

“We were really busy. I couldn’t handle it: There was so much work. My first year I think we had 12 technicians working for me,” Ramirez says. “But that was because of the bubble: The houses were selling like pancakes, especially here in California, and they were selling for a lot of money. The banks were giving loans to everyone, anyone, so it was good at that point, between 2004 and 2007. We were extremely busy. In 2007, everything crashed. The houses weren’t selling, houses were on foreclosure, and so I stopped work for the home warranties.”

It was at that point he scaled down to six technicians, put an ad in the phone book and started working directly with customers. Before starting his own company, Ramirez had worked in the industry for many years. He

always wanted to focus on service and repair work, which he prefers because he enjoys being able to help people in a more personal way, so he never really considered switching to new construction.

“I have a few friends who do new construction; they’ve done both and keep telling me that service and repair is more difficult because you cannot see the plumbing. To find the leak, you kind of have to diagnose it and do some troubleshooting,” he says. “I really

## A full plate

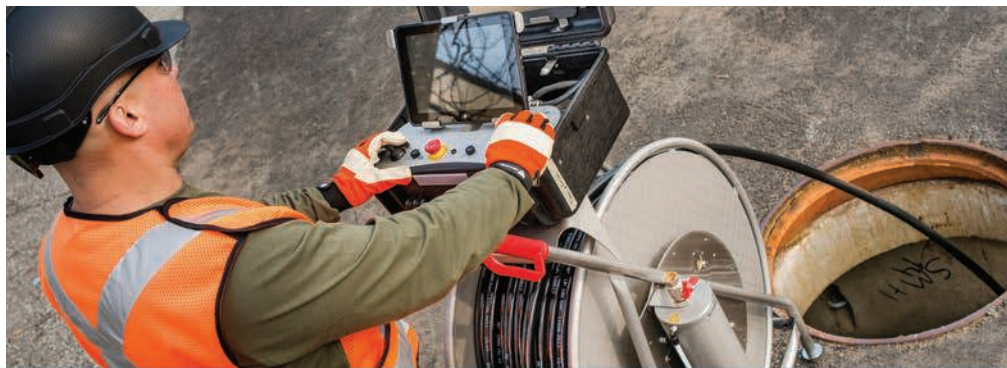
Running one company wasn’t enough for Ray Ramirez, who recently started two side ventures: a landscaping company and a house-flipping operation.

Now that his plumbing service and repair company, General Plumbing and Rooter, is running smoothly, he decided to flip some houses. One thing led to the next and an opportunity presented itself via one of his tenants, a landscaper specializing in interlocking pavers.

But his time is limited, what with the two businesses already on his plate, so he has filled the role of mentor and business guru.

“I was very honest with them upfront, and I told them: ‘OK, I can help you with the contract license and I can help you with equipment because I already have the equipment. I’m not going to be able to help you with my time because I’m already tied up with a company and with my other work.’

“With my experience running my company, I told them this is what I can do, this is what you need to do, and this is what we all need to do. And it has worked,” Ramirez says. “In our first year — last year — we did over \$700,000 in gross revenue. That was really impressive for the first year.”



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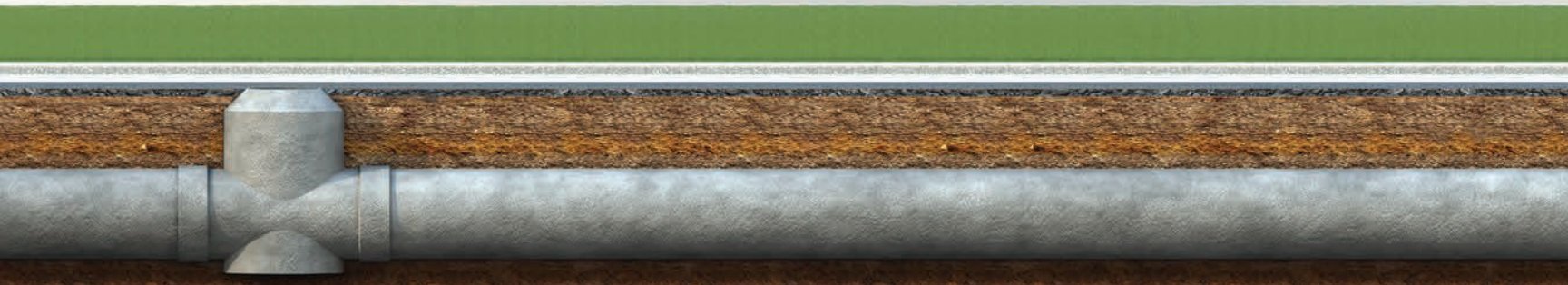


⤴ The General Plumbing and Rooter trenchless pipe replacement crew (from left): Alvaro Sanchez, Ismael Chavez, owner Ray Ramirez, foreman Ramon Ramirez, Carlos Perez, and Alex Viera.

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like the challenge — being able to find a leak that nobody else could find or replace a line that some people just walked away from.”

Especially on hydrojetting jobs, Ramirez often finds himself as the second or third call, after other plumbers failed to clear the line with other means.

“A lot of times we go to homes and the customer says, ‘Well we had two or three different companies come out and they couldn’t clear the line.’ Later we go out there with the hydro jetter. We tell them, ‘If the pipe is not collapsed, this hydro jetter will clear the line for sure.’”

Hydrojetting has also been a boon to the company’s stability, second only to pipe bursting.

After purchasing a mobile hydro jetter from Spartan Tool, Ramirez found a lot of work subcontracting for plumbers who don’t have such advanced equipment. The Spartan Tool Soldier hydro jet — along with a drain cleaner from Gorlitz Sewer & Drain and inspection equipment from RIDGID and Vivax-Metrotech — has pushed drain cleaning to the top of their service list.

“We get compliments from inspectors. Most plumbers can’t stand inspectors, for obvious reasons. When you hear something

**“I like to invest money in the best tools.**

One of the reasons my guys are very effective is because they have the right equipment, the best equipment out there.”

Ray Ramirez

positive from inspectors, that means you’re doing something good,” Ramirez says. “I like to invest money in the best tools. One of the reasons my guys are very effective is because they have the right equipment, the best equipment out there.”

### LASTING SOLUTIONS

The two favored technologies, hydrojetting and pipe bursting, go hand in hand from a business standpoint. Ramirez is frequently able to leverage a drain cleaning into a pipe bursting job and has a convincing pitch for just such occasions.

“I tell the customer: ‘This hydro jetter is just going to cut the roots; it’s not going to fix the line. The roots are going to grow back, and you’re going to call us again one year, two years, three years from now. This is just something temporary so you can get some time to think about replacing the lateral. It’s just a matter of time before the line collapses or something else happens.’

“We try to push for replacement with pipe bursting,” he says. “When customers ask my opinion about what to do in their situation, I tell them: ‘If this was my house, I would clean the line because I have the equipment and I can do it.’” But there’s more to the story.

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» Alex Viera uses a RIDGID SR-20 locator to confirm the location of the crew's inspection camera.

As a homeowner, Ramirez actually experienced root intrusion in a sewer lateral and did just that — decided he would simply clear the line himself whenever necessary, which worked until the day it backed up while he was out of town.

"I was probably two hours away and my wife couldn't do laundry or dishes, couldn't take a shower, couldn't do anything. And I had two little kids. She goes, 'You have to fix the line. You have to replace it.' So I had to replace it because my wife told me to," he says with a laugh. "I use that whenever a customer asks me that question; I always tell them about that story: If you ask my wife, she will tell you — replace it.

"We always recommend replacement of the line," Ramirez says. "We run the camera, and if we see the line is full of roots, we clear it and tell them, 'OK, this line is a perfect candidate for pipe bursting, right now, today. But if one of those connections collapses because of the root intrusion, pipe bursting is not an option anymore. You will have to jackhammer the sidewalk, do the repair and then pull a new line in — it will cost you a lot more money.'" c

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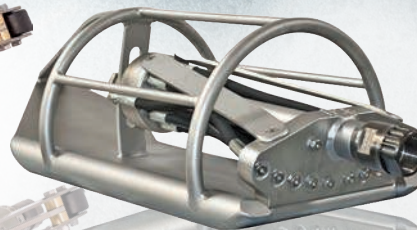
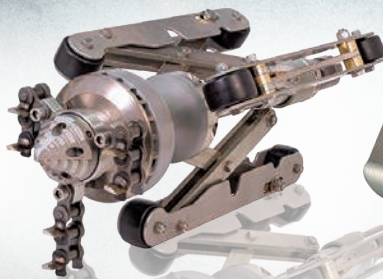
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# Pipe Assessment Arsenal

A guide to the basics of pipe assessment and leak detection methods

By Jared Raney

There was a time when the pipe cleaning game was trial and error. Stick a drain cleaner down the pipe, and if it didn't work, the only other thing to do was dig it up.

Fortunately, today there are a variety of pipe assessment tools that make drain cleaning a more nuanced endeavor, near to an art in some cases. In fact, there are so many options in the current market — and more every day — that it can be difficult to know where to start.

We've compiled a quick-reference guide to all the basic pipe assessment and leak detection tools available, including smoke testing, CCTV, acoustic inspection, and sonar and laser profiling.

## SMOKE TESTING

One of the earliest assessment tools, smoke testing remains one of the simplest, fastest and most cost-effective methods to find major cracks in nearly any pipe. Though the market has gone well beyond the traditional smoke candles and other single-use smoke elements of years past, it still holds a strong place in the drain cleaner's arsenal.

The concept is simple: Flood a section of pipe with smoke and see where it breaches the surface. Anywhere smoke is visible above ground, you've found a pathway created by water infiltration.

"Smoke testing is one of the oldest and I think most effective ways of finding defects that allow water in or out," says David Guillory, vice president of business development for Compliance EnviroSystems. "If done correctly, it gives you the biggest bang for your buck. When I say done correctly, conditions have to be right for a smoke test to give you useful data."

In order for smoke testing to be effective, the waterways that inflow and infiltration creates from the surface to the pipe have to be open. If the ground is saturated, those channels will already be filled and smoke can't escape through them. This means it only works in dry conditions — no rain, no snow.

"Generally, the contractor or worker is going to smoke-test an entire neighborhood or industrial park. You can make it directional by using pipe plugs, but usually you're testing a large area," says Mike Hurley, president of Hurco Technologies. "You can't smoke-test new construction, unfortunately — it needs awhile for the ground to settle. If there's a leak in that pipe or a bad connection, water hasn't found its way down to that opening yet. Eventually, water sinks down and makes it into that pipe, and that's the route smoke takes out."

One downside of smoke testing is that you should always inform the public when smoke-testing in populated areas. Smoke can find

"Smoke testing is one of the oldest and I think most effective ways of finding defects that allow water in or out."

David Guillory





its way into houses; and beyond simply eliminating the panic of homes suddenly filling with smoke, there is a risk of smoke pushing sewer gases out of the system with it, even if the smoke itself isn't hazardous.

"Speed is the reason for smoke systems — it's much faster to smoke-test than it is to run a camera through," Hurley says. "It's great to have that visual inside the pipe. There's even laser profiling systems that they make, but the bottom line is: If you want to cover a lot of ground very fast, cheap and effectively, then smoke testing is absolutely the fastest way to do it."

The liquid-based smokers that have become more common in recent years are devices that fit over the manhole, with a small engine that heats a coil, which in turn burns a typically liquid additive, producing smoke. A gallon of Hurco Technologies' liquid smoke is about \$60 and will provide three to four hours of smoking time.

Hurley recommends that two workers be on site for smoke testing, walking in opposite directions to the next-closest manhole, then back in the other direction to do the same. That way, the area is covered twice.



◀◀ A utility crew member operates a Hurco Technologies smoke-testing machine at a manhole, and then watches for smoke to appear.

"You can easily smoke-test up to 1,000 feet in each direction from the manhole that you have the smoke machine on," Hurley says. "What a lot of our customers do is they'll smoke-test with our equipment, and then when they find places where they're getting

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a lot of infiltration, they'll mark it and send a camera crew.”

A complementary method for I&I assessment is dye testing. Though less common, it can be beneficial to gauge the severity of a particular leak by flooding the area around a known defect with dyed water and putting a camera in the line. A lot of color on the video means a really bad leak.

## CCTV

Video inspection has become the bread and butter of many operations and, one could argue, the drain cleaning industry at large. Not only is it an effective tool in and of itself, it also feeds into just about every other pipe assessment method.

Smoke testing is really just a front-end technology used to cover large areas quickly and efficiently that would otherwise be too resource-intensive to video inspect. Once workers have narrowed infiltration issues to certain locations, they still need to run a camera through before crews can do anything to fix the leaks.

“CCTV is kind of the workhorse for wastewater inspection,” says Lisa Douglas, vice president of the water services division for Ace Pipe Cleaning (Carylon). “When you get through the pipe, you should have the inspection you need, the data you need, to make the assessment for the work.”

A wide market of CCTV technology is proof that video inspection is a big player. There are systems for every pipe size and application imaginable. Sewer cameras come in basically two types: pushrod and crawler.

Pushrod cameras are generally for smaller-diameter pipe in residential applications, and crawlers are more common in mainline inspections or municipal jobs. Those categories are too varied to delve into here; there are a plethora of configurations, camera head qualities, add-ons and customizations. One important consideration is cost. On the low end, a decent pushrod system will cost around \$10,000 to \$15,000. Crawler systems, on the other hand, will start at closer to \$50,000.

“Video inspection has completely revolutionized plumbing in the last 20, 25 years,” says Dave Dunbar, national sales manager for General Pipe Cleaners/General Wire Spring. “Before cameras, you really didn’t know what was going on in a pipe. You could guess, but



Ben Bippin, general foreman of Dippel Plumbing & Heating Co., uses a Gen-Eye SD camera from General Pipe Cleaners to inspect a pipeline.

A RauschUSA robotic camera system is set up to laser profile a storm pipe.

The Sewer Line-Rapid Assessment Tool uses acoustic technology to assess sewer line blockages in as little as three to five minutes, or 10 to 20 times faster than a typical camera inspection.



the only way to really know was to dig it up. With a camera, you can go down and you can actually take a look and see what’s going on.”

Another peripheral benefit of video, beyond simply the ability to see inside a pipe, is proof for your customers. It has become equal parts diagnostic and marketing tool.

“That’s very lucrative, between pipe relining, pipe bursting and just the traditional replacement,” Dunbar says. “Somebody buys a camera system that can actually go down a line and show them. This can create a very strong argument for replacing the pipe. They can make a recording and present it to the owner — a picture is worth a thousand words.”

Or in this case, thousands of dollars, as it’s not unreasonable to earn enough on a single large rehab job to pay off a low-tier camera system in one fell swoop.

## ACOUSTIC ASSESSMENT

There are a few pipe assessment or leak detection methods that fall under the umbrella of acoustic assessment.

CONTINUED >>

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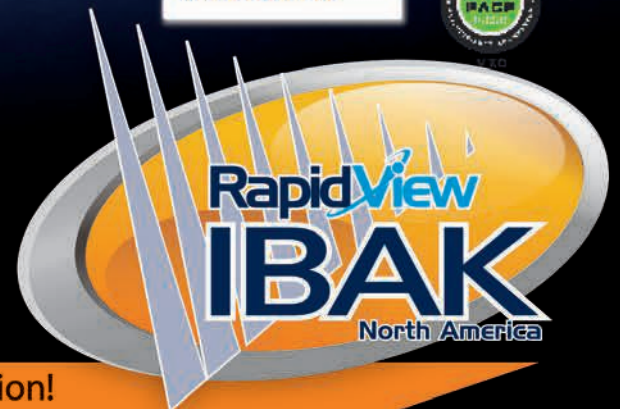
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A common tool that many cleaners use is the SL-RAT from InfoSense. This device has a transmitter and a receiver that are attached to opposite ends of a pipe, and they send an acoustic signal, which is assessed by the system on a scale of zero to 10. Zero means the pipe is completely blocked, while 10 means completely open. It's a quick and dirty way of determining whether a pipe needs to be cleaned or will need to be cleaned in the near future.

### "CCTV is kind of the workhorse for wastewater inspection.

When you get through the pipe, you should have the inspection you need, the data you need, to make the assessment for the work."

Lisa Douglas

Then there are acoustic leak detection tools, or listening devices. While there are a variety of complex electronic versions out there, the simplest form of this concept is taking a stethoscope to the ground above a pipe and trying to hear the sound of a leak.

"It's an art, not a science. You've got to sort of train your ear to do that," Dunbar says. "You're listening for the leak and hoping for the best."

It's a challenging method that requires knowledge of what to listen for, as well as knowing where the pipe is and where it's going, which means they typically also have to be accompanied by locating systems.

The benefit of acoustic over, say, smoke testing is that it's possible to hear minor leaks — those that might not let enough smoke through to be noticed on the surface. The downside is it takes training, patience and practice.

Lastly under the acoustic assessment category is sonar profiling. This is more or less what it sounds like: A device emits a sonar signal and uses it to create a digital rendering of the pipe profile. It is often used in conjunction with laser profiling, as they are essentially the same concept with different applications.

### SONAR AND LASER PROFILING

Similar to sonar, laser profiling constructs a profile of pipes using laser signals.

There's one major difference between the two technologies: Laser is used to profile the empty space of a pipe, and sonar is used for water-filled pipe. This is why they are often used together. While one looks up, the other looks down, metaphorically speaking.

"They're similar; I mean, they're giving you the outline of the pipe — one is above water and one is below water. This allows you to get the profile of the pipe above and below. Sonar gives you the positional information if there's material in the invert of the pipe, and they both also give you the outline of the pipe," Douglas says. "If your pipe is out of round (if the ovality is changed), that can be a structural issue, based on the material of pipe, maybe overburden, something along those lines. For concrete pipe, if it has corroded, you'll be able to understand where those areas of missing pipe wall are."

These profiling systems can be attached to crawler systems but are typically applied via a floating pontoon-type device. Often one or both are use in conjunction with CCTV — this is typically called multisensor inspection.

### CAREFUL CONSIDERATION

Unfortunately, there are no methods that are simply better or worse than any others. Of all the many methods that have come and gone over the decades, those that remain are all here for a reason. Each has its place in the drain cleaning toolbox, each with application-specific benefits. Deciding what tool to use comes down to what your company's services are and what your goals are. If you're not pitching rehabilitation services, maybe you don't need a super-expensive camera with high-definition video.

"If someone is just looking for a general assessment of the pipe, the CCTV gives you a visual, obviously, and you'll be able to see everything from structural defects to blockages," Guillory says. "Then in some situations, you may be able to see leaks if they're active, but a lot of times the CCTV will not identify leaks because leaks aren't always visible to the naked eye. So you could drive past a crack that leaks when it rains but if it's not raining, it won't be leaking when you've got a camera in there. And then you may not be able to tell if it's severe or not. So it all works hand in hand."

If you have a small crew and don't have time to train an employee to become specialized in one method, smoke testing may work better than a listening device. Smaller companies probably can't afford a full accouterment of profiling equipment so investing in a solid camera may be a smart move, or maybe you can get by with an SL-RAT.

"It usually depends on the scope of the job," Guillory says. "Leaking pipes, that's pretty much the basis of the trenchless industry. So everything we do — whether it's assessing, fixing, lining, digging it up, whatever — has to do with a pipe leaking. That's the basis of what we do, so there's always new technology and the tried-and-true methods." **c**



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**PROFILE**

« H&R Plumbing and Drain Cleaning owner Horacio Franco has transitioned his company from plumbing to underground work, focusing on grouting, manhole rehabilitation and pipeline replacement.

# CHANGING COURSE »»

A new name and new services have completely revamped this contractor's company

By Giles Lambertson // Photography by Amy Voigt

**H**oracio Franco is not afraid of change. The founder of H&R Plumbing and Drain Cleaning in El Sobrante, California, simply reacts instinctively to change and keeps forging ahead.

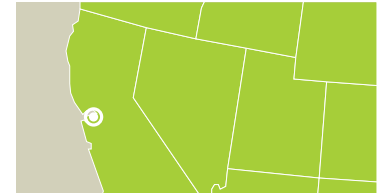
Franco got into plumbing quite accidentally, but then started a plumbing company of his own. A decade along, he arbitrarily refocused the entire thrust of his work to preserve it during the national economic recession. Today, the changes are still coming.

Franco's ability to adapt has made his career into another example of the rise of a businessman from humble beginnings on the strength of hard work, determination, courage — and a willingness to try new things.

Born in the Guadalajara area of Mexico, Franco moved to California at age 16. In 2001, he graduated from California State University, East Bay (in Hayward), earning a criminal justice degree. His goal was to become a policeman. In a classic example of how circumstances can alter the course of a life, before he could launch his law enforcement career, he lost an interim job at an inopportune moment.

"I got into plumbing by accident. I had lost a job, losing my income and insurance, and I had a 1-year-old child and a pregnant wife," he says. "I started doing plumbing work for a company, a lower-level plumber helping more experienced plumbers, and started learning the trade. It was fun, but I had envisioned a different career. Doing all this sewer stuff was not my plan."

At age 35, he not only decided to keep "doing all this sewer stuff," he went all in and opened his own company, H&R Plumbing and Drain Cleaning. The "H" is for Horacio, and the "R" represents a family name, Ramon. He operated his company out of the home he lived in with his wife, Alejandra, and their son and daughter. Franco steadily built up his business and eventually moved to an office 5 miles from the family home, a half-acre lot with a 1,100-square-foot warehouse.



## H&R Plumbing and Drain Cleaning

**LOCATION:** El Sobrante, California

**OWNER:** Horacio Franco

**EMPLOYEES:** 15


**SERVICES:** Manhole rehabilitation, sewer line chemical grouting repair, CIPP relining, pipe bursting, pipe excavation and replacement, residential plumbing

**SERVICE AREA:** California

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



» Foreman Raphael Escobar operates the controls of an Aries Pathfinder robotic inspection camera.



» Foreman Raphael Escobar connects the lines of an Aries grouting system to a Logiball mainline packer.

**“I started in plumbing and was excited to do it, then I got into laterals.**

**I basically thought I would do residential plumbing forever.”**

Horacio Franco

## A DIFFERENT DIRECTION

Today, 15 years after the plumbing company's founding, H&R Plumbing and Drain Cleaning is well on its way to becoming an entirely different company. “We started as a 100% plumbing business,” Franco says, “but now plumbing is about 10%. Underground work is the other 90%, mainly with municipalities.”

He never envisioned such a major transition from one line of service to another; Franco admits it was mostly serendipity. “All the underground stuff — I didn't know that existed,” he says. “I actually didn't have a clue. I started in plumbing and was excited to do it, then I got into laterals. I basically thought I would do residential plumbing forever.”

That all changed in 2009 when he decided to attend the Pumper & Cleaner Environmental Expo (now the Water & Wastewater Equipment, Treatment & Transport Show) because the financial crisis and recession had begun to take its toll on small companies and Franco was looking for something extra to offer his customers.

At the exhibition, he discovered a whole new range of underground services. The trenchless pipe repair and replacement solutions and manhole rehab systems he encountered at the expo captured his imagination. He promptly bought a 7-year-old Vactor hydroexcavation truck with a 2,500 psi/40 gpm pump, a 500-gallon water tank and 3-yard debris tank. He also purchased a 30-ton TRIC Tools pipe bursting system and installed it in a 10-foot trailer. He previously had subbed out pipe bursting work. Now it was part of his portfolio of services.

Franco also geared up with Madewell Products manhole rehabilitation equipment and materials. He tested the manhole repair system on a demonstration project in another East Bay community near El Sobrante and won a contract. His company's transition to underground work was well underway. The changeover continued a couple of years later when Franco invested in Perma-Liner Industries CIPP equipment. Within a few months, H&R Plumbing and Drain Cleaning was relining pipe virtually every business day.

» Raphael Escobar checks that the grouting rig and camera is properly set up before launching.

» Assistant Lorenzo Picaso retrieves the inspection camera from a manhole.



### ADAPT AND THRIVE

This amalgam of services — aboveground plumbing and belowground infrastructure repair and replacement — kept the company afloat when the full force of the recession swamped small business. And the company did more than just survive. It thrived. “It helped us to get through the recession,” Franco says. “We kept growing steadily during the recession, actually. Our business volume kept going up every year.”

Clearly, the company had developed a formula for success. It comprised a diverse range of services, from more traditional residential plumbing work by skilled plumbers to municipal infrastructure repair and replacement projects using heavy industrial equipment. It was a balanced assortment of services that promised to produce revenue in any economic environment.

Then Franco changed focus again, trying out some new services.



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Lorenzo Picaso replaces a manhole cover after an inspection.

**“We kept growing steadily during the recession, actually.**

**Our business volume kept going up every year.”**

Horacio Franco

crews who go out and stay where they need to stay to do the job.” Projects can take them far from home, as the company’s service area has expanded to cover the state of California. The manhole rehab crew goes out daily, typically rehabbing four to eight manholes a day ranging in depth from 5 feet to 12 feet.

A recent two-month project involved groundwater and infiltration reduction for a Sacramento area sewer district. H&R Plumbing and Drain Cleaning was tasked with grouting every connection point between lateral lines and the sewer main. In all, some 15,000 linear feet of 6-, 8- and 10-inch lines were rehabbed using Avanti International grout pumped by Aries Industries grouting equipment to Logiball injection packers.

The process involves cleaning out a pipe using a Vactor hydrovac unit followed by a visual inspection with an Aries Industries Pathfinder robotic camera. The grout is then pumped and chemically cured. Typically, the company grouts 10 to 20 lateral connections a day, depending on the location of the connections and how difficult they are to reach. Each lateral takes 1/2 to 5 gallons of AV-100 grout.

Keeping with its intent to offer customers a full range of services, H&R Plumbing and Drain Cleaning also has dirt-moving equipment for old-fashioned dig-up-and-replace work. It trenches with a 2017 Caterpillar 304E2 mini-excavator and does everything else with a

CONTINUED >>

## A path to success

Horacio Franco is a successful businessman who never planned to be one. Law enforcement was his dream career, but circumstances led him to the trades. Franco probably would have been a good cop, but he also clearly has what it takes to be successful business owner.

All of the trades are facing difficulties in luring new generations of workers, and the founder of San Francisco-area H&R Plumbing and Drain Cleaning wishes young people would think more about that type of work.

Engineers work with theories and abstract principles, he says, “but in the trades, you are there putting it all into practice. I say to the next generation: Underground work is something to consider. To a lot of people, it is out of sight and out of mind, but we continue to educate young people, including my kids, about the industry.”

The family’s two children have grown up in the business. While his daughter plans to become a doctor, his son is headed to college to earn an engineering degree and plans to work with Franco at H&R Plumbing and Drain Cleaning. “That’s his goal.”

Franco’s success in the industry is undeniable. He says having an open mind to opportunity helped him achieve this, but character and work ethic make a difference too. “I want to be the best that I can be. To give the best result I can to a customer. I’m willing to try new products and new things that are good for the customer and for the environment.”



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The H&R crew includes (from left) Lorenzo Picaso, Martin Navarro, owner Horacio Franco, foreman Raphael Escobar, and Felix Yanes.

2018 Cat 272D2 skid-steer. “We don’t necessarily use them every week,” Franco says. “Sometimes it’s every month. Sometimes we’ll go two or three months without using them to dig up and replace a section of pipe or install a new manhole.”

H&R Plumbing and Drain Cleaning is the main contractor on the Sacramento project, but often it is a subcontractor. Franco says the company will continue to lead some projects and subcontract others as needed. Little of the work is new construction.

## UNDERGROUND

As the name suggests, H&R Plumbing and Drain Cleaning is a family business, with Franco the on-site leader and Alejandra managing the office. “She has been a great support to me in the decisions I have made. She’s been in business with me since we started.”

To reflect the changes that led the company to what Franco says is its niche — specialized grouting service — H&R Plumbing and Drain Cleaning is set to become H&R Underground as soon as logos are reworked on trucks and lawyers complete the legalities. That said, the company founder is keeping his service options open, still employing “some of the best plumbers I know” to service home systems and still maintaining equipment to burst or reline pipe or dig up and replace a collapsed line.

“I am enjoying every aspect of the work; every single portion of the work has challenges and rewards. When I am in manholes or when I’m grouting, I get a lot of satisfaction doing what others can’t

do and knowing we can stop a leak and get a system back to work. That’s satisfaction.”

The company has found a groove with its new line of work, but Franco never rules out changes. “Right now, I am focused on underground work, on grouting and manholes. I am going to keep doing what I’m doing,” he says. “But I’m still seeking knowledge. I’m still willing to try new things.” **c**

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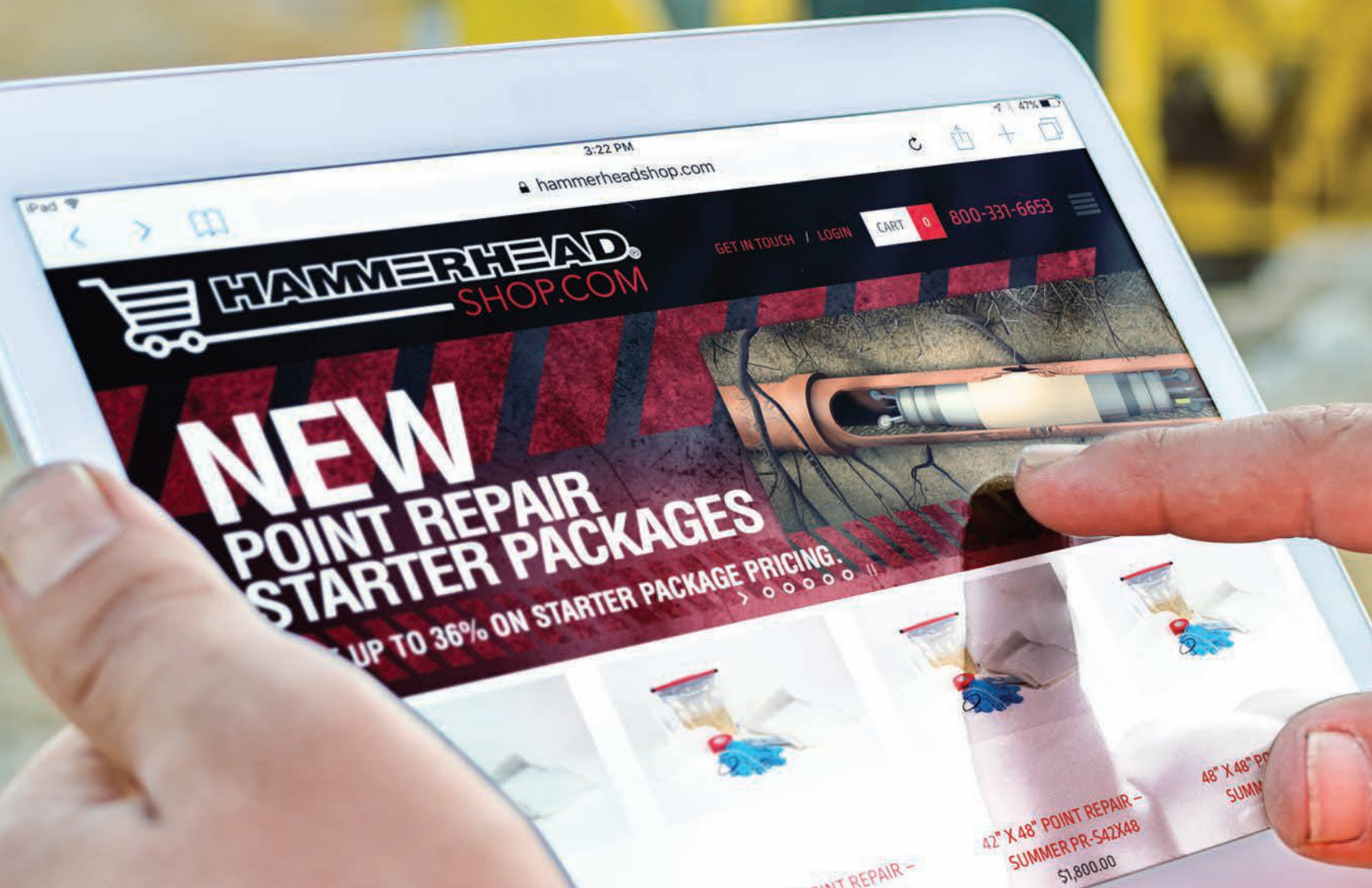
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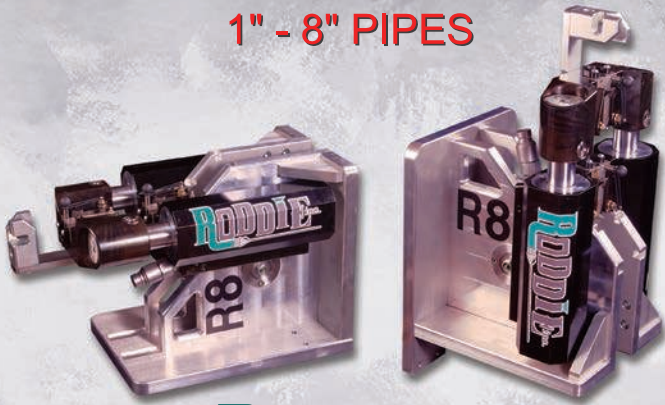
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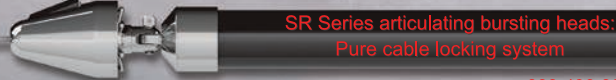


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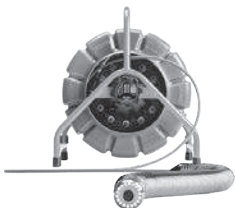
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# Laser-Guided Profits

Profiling system helps Florida contractor better serve customers and generate more revenue

By Ken Wysocky

Ever since Allan Cagle founded Atlantic Pipe Services in 2017, he's emphasized investments in new technology that expand the company's services. A good example is the M-Series KS 135 laser-profiling robotic camera system made by RauschUSA.

The unit reflects two of Cagle's core business philosophies. The first one centers on offering customers as many services as possible because they often prefer to do business with one go-to contractor who can perform a variety of jobs. The second is linked to the first: Why send customers to competitors when the technology needed to fulfill their needs is readily available?

"Initially, I wasn't going to invest in a laser profiler," says Cagle, president and co-owner of the company, based in Sanford in central Florida.

"But then we started getting calls asking if we did laser profiling. So I basically was giving away work to competitors. It's much better to be a one-stop shop for your customers."

So Cagle took the plunge in late 2017. It was a significant investment: roughly \$260,000 for the entire package, outfitted by RauschUSA on a Ford F-550 with a 16-foot box body made by Dejana Truck and Utility Equipment. But since the purchase, the unit has more than justified the initial cost.

"First of all, we can charge a little more for laser profiling than we do for televised pipe inspections," says Cagle, whose company inspects and cleans pipelines in central and northern Florida. Atlantic Pipe Services, which employs about 30 people, also does trenchless pipeline repair and rehab work, including pipe lining and spot repairs.

"Secondly, doing laser profiling opens up opportunities for more work with the same customers (primarily underground utility contractors). If you're out on road (construction) jobs, cleaning, televising and profiling pipelines, there's a pretty good chance those customers will also need repair work, using technology like mechanical joint seals and pressure grouting."



▲ Atlantic Pipe Services technician Chad Comis uses a winch to load the Rausch M-Series KS 135 laser profiler into a camera truck on a road-construction job site in Florida.

## MEASURING PIPE INTEGRITY

Laser profiling checks the integrity of newly installed pipelines before they go online, thus minimizing the chances for unforeseen pipe repairs or replacements down the road. "It checks for proper ovality — makes sure the pipe isn't squashed or somehow stressed," Cagle explains.

Florida regulations used to require contractors to profile both rigid and flexible pipe. But since 2017, only flexible

## ATLANTIC PIPE SERVICES

SANFORD, FLORIDA

**OWNERS:** Allan Cagle, Jon Hall Jr. and Keith Carson

**MACHINE:** M-Series KS 135 robotic laser-profiling system made by RauschUSA

**FUNCTION:** Creates geometric profiles of newly laid pipelines that reveal deflections and deformations

**FEATURES:** Laser diodes built into camera head, simplifying the profiling process; combines conventional camera inspections and laser profiling in one unit; weighs roughly 70 pounds; generates instant 2D and 3D reports on site, no third-party analysis required

**COST:** About \$260,000 with fully built-out camera truck and accessories

**WEBSITE:** [www.atlanticpipe.us](http://www.atlanticpipe.us)

pipes from 12 to 48 inches in diameter need such examinations, he notes.

The technology is complicated to explain. But in essence, the KS 135 uses two lasers, a camera and a sophisticated software system made by POSM Software to create a geometric profile of pipe interiors. RauschUSA's "spinning laser" technology scans the walls of a pipeline at a defined rate of speed, no more than 30 feet per minute.

After the profiling run concludes, the software instantly generates 2D and 3D graphs that show any deflections, the overall length and the inclination slope. This quick turnaround time from profiling completion to report generation is a key reason Cagle decided to buy the RauschUSA unit.

"As you retrieve the camera, you're laser-profiling on the way back. **You're basically performing two types of inspections without any additional setup.**"

Allan Cagle

"You get the ovality report right then and there," he says. "Our customers like that because if the report shows a pipe that's out of ovality, they can address the problem right away. With some systems, it might take anywhere from a day or two to a week to get that report.

"Contractors want to be productive — time is money. All laser profilers work well, but at the end of the day, contractors want to save time and money and improve productivity out in the field."

### DOUBLE-THREAT CAPABILITIES

The KS 135 does conventional inspections as well as profiling. Typically, the camera does a televised run in one direction, then profiles the pipe as it's pulled back to the starting point. That provides another competitive advantage because other laser-profiling technologies require more time to do the same thing. They also require confined-space entry, typically inside a manhole, Cagle says.

"With the laser head built right into the head of the camera, there's basically fewer steps involved than with a ring laser. After you televise the pipe run and measure the tolerances on pipe-joint gaps, you turn out the camera light and turn on the laser. As you retrieve the camera, you're laser-profiling on the way back. You're basically performing two types of inspections without any additional setup."

Moreover, the unit is durable, well engineered and easy to use. Cagle estimates that a camera operator who's already experienced in doing televised inspections could easily become proficient at laser profiling in two to three weeks. He also gives RauschUSA high marks for technical support and customer service.

Cagle is no stranger to investing in advanced technology, which

he says is a cornerstone of the company's success. The company also owns two Vactor 2100 Plus combination sewer vac trucks; five Vacall AllJetVac combination sewer vac trucks, each equipped with an AllClean water recycling package; six other camera trucks, built out by Envirosight on Ford F-550 four-wheel-drive trucks with ROVVER X (Envirosight) robotic cameras; push cameras made by both Envirosight and RauschUSA; and grouting pumps made by Graco and Avanti International, a CIPP lining system from Infrastructure Repair Systems and mechanical joint seals from HydraTech Engineered Products.

As such, Cagle recognizes a good investment when he sees it. He's been so happy with the KS 135 unit that he's investing in another one, which he expects to take delivery of this summer. "It's the Cadillac of laser profilers." c

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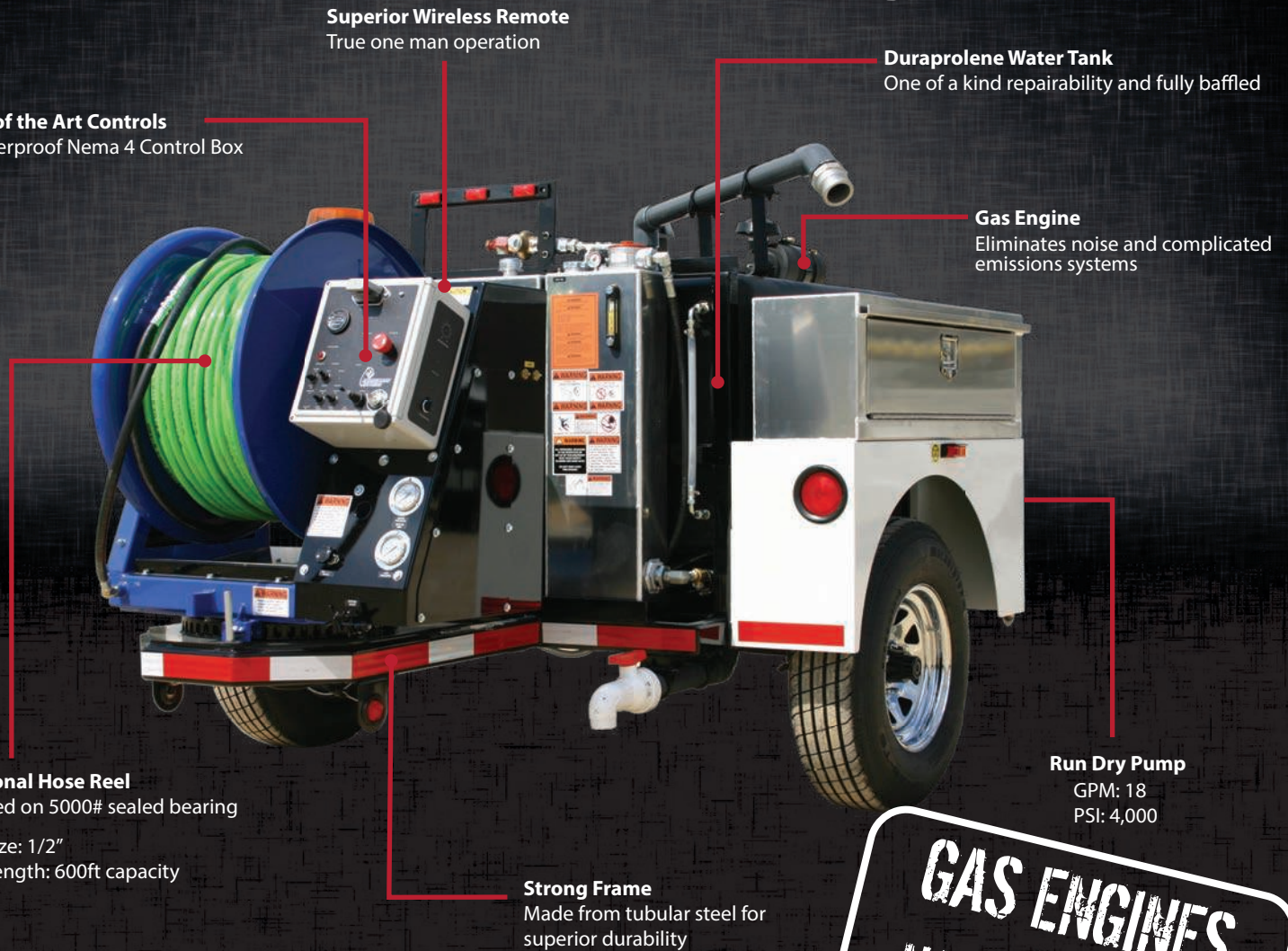
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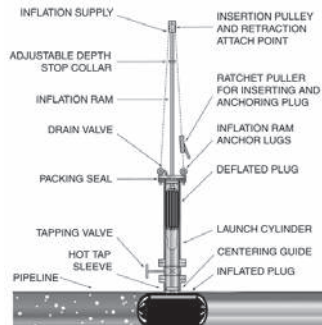
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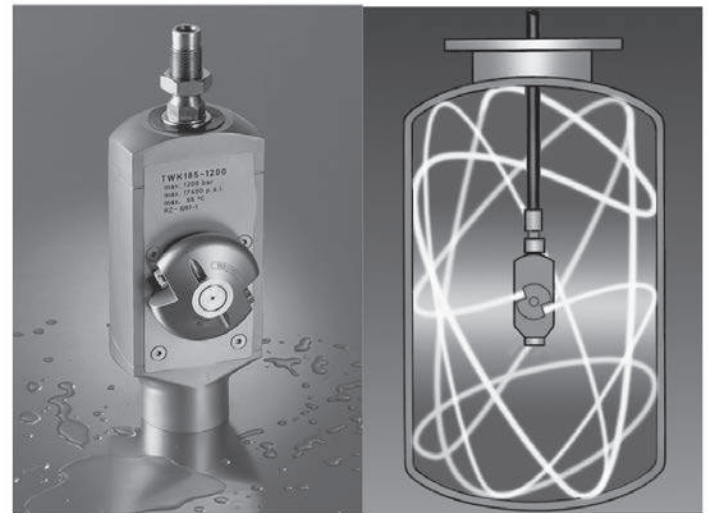
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# Ready to Respond

It's often overlooked, but emergency preparedness is vital to confined-space work

By Jared Raney

If you're working in a confined space and the unthinkable happens, your team can just call 911, right? According to Gary Toothe, F.S. Solutions customer training manager, dead wrong.

"Calling 911 is not going to work, because most fire departments, especially volunteer fire departments, are not trained in confined-space rescue."

Take Atlanta, Toothe's closest city center. He says the metropolis has three departments that are trained for confined-space rescue — out of 34 total stations.

"If they happen to be out at a fire, they're not going to let the building burn down," Toothe says. "You may not have (a large) number of confined-space rescue teams, so put somebody on deck. Make sure you let them know enough in advance that somebody will need to be available if necessary."

"There are 16 different configurations for permit-required confined spaces, which means if you're going to be certified as a confined-space rescue person, you have to be able to extract people from 16 different styles of confined spaces."

Gary Toothe

That may seem obvious, but again, it's often something taken for granted. The OSHA regulation itself is somewhat lacking in specifics, and many contractors tend to overlook this aspect of confined-space entry.

## TRAINING EXPECTATIONS

There are different types of confined-space training — and being trained to perform confined-space entry does not qualify you to perform rescue.

"Generally, the operation training will say something like, 'You need to ensure that confined-space rescue services are available.' And that's it. That's pretty much the throwaway tag line for the whole basic training," Toothe says.

It's also important to note that you can't just call the first phone book ad claiming confined-space rescue services. OSHA clearly lists the criteria for a confined-space rescue team, and it is incumbent on the employer to evaluate any chosen team for proper training and capability.

Part of the difficulty of confined-space rescue training is that OSHA quantifies 16 different scenarios or manhole configurations, and a properly trained rescue team has to be prepared to act on any of those scenarios that could reasonably be expected in their service area.

For example, elevated or nonelevated manways are different scenarios, as are restricted and nonrestricted, as well as obstructed and nonobstructed. So if rescuing in a manway with obstructions, oxygen tanks and breathing apparatus could become a challenge, and rescue teams need to be prepared for that.

"Here's the big problem with confined-space rescue: Ask most people how many different kinds of confined-spaces there are, and they will say two: nonpermit required and permit required. Ask them how often they practice, and they'll say, 'Once a year, just like OSHA says,'" Toothe says. "But there are 16 different configurations for permit-required confined spaces, which means if you're going to be certified as a confined-space rescue person, you have to be able to extract people from 16 different styles of confined spaces. And you should practice those, or at least those you are expected to provide rescue from, at least annually — all of them."

This means that instead of the one day that many contractors believe to be the expectation, in order to be ready for all of the different scenarios, you would need about five full practice days throughout the year.

"That doesn't happen a lot," Toothe says. "The regulation states that you must practice for each configuration you're reasonably expected to provide rescue from. Most contractors don't get that. It's a big mistake as far as confined-space rescue is concerned — it's something that lays in the weeds, if you will."

## DEVELOPING A RESCUE TEAM

Toothe says before becoming a safety manager, he did a fair amount of work for nuclear power plants, where safety is paramount. They had two confined-space rescue teams available, but even so, he had to make sure that one of the teams would be available before he could proceed — it wasn't simply a matter of assuming there would be rescue available.

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“I generally tell people you need to put the rescue team on deck. Tell them they need to be prepared to do rescue if such an eventuality occurs so they can have the cart loaded with the proper materials. ... You need to make sure you let them know enough in advance that somebody will be available to perform it if necessary.”

Larger contractors or facilities like the power plant can have its own rescue teams on hand, but even then, their availability can't be taken for granted, and they must qualify by OSHA's standards.

If developing your own rescue team is feasible, Toothe recommends an analytical approach.

“The first thing you should do is identify what types of confined spaces you need to provide rescue for or from. So do a general sort and say we don't have any elevated, so we can eliminate that. Do an inventory of what style of confined spaces you need to provide rescue for.”

### AN ADDED LIFELINE

Another big misunderstanding of confined-space rescue stems from an oversimplified interpretation of OSHA's lifeline rule.

“There's one other thing that most people don't get, and that's if you're not going to wear a lifeline — if nonentry rescue is unavailable because you have chosen not to wear a lifeline — then the rescue team must be present at the portal, ready to perform rescue,” Toothe says. “They have to physically be there, sitting in a chair with their backpacks on, ready to go at a moment's notice.”

“OSHA says if wearing a lifeline would produce a greater danger to your life or health, it is not required. Now, people will bleed that off into, ‘OSHA says if it's going to be a pain in my butt, I don't have to wear one’ — that's not exactly what OSHA says. If I have on a lifeline, the confined-space attendant can perform nonentry rescue. He can crank on the tripod or pull on the lifeline, and pull the entrant to the manway.”

Otherwise, a rescue team is required on site.

It's important to note that even when you're wearing a lifeline, for permit-required confined-space work, a rescue team must still be notified and ready to respond — even if they're not required to be at the manhole.

“For most companies, confined-space rescue training is the minimum required by law: A 20-minute video and a 10-question true/false test afterward — it's ‘What can we get away with?’” Toothe says. “I teach confined-space competent person (certification), and that's an eight-hour class. But most people when you say, ‘Hey, if you're going to do confined-space, get serious about it; I'm going to train you as a competent person and it's eight hours,’ they're like ‘Holy crap, I don't think we're ready for that.’ But it's something you need to know.” **c**

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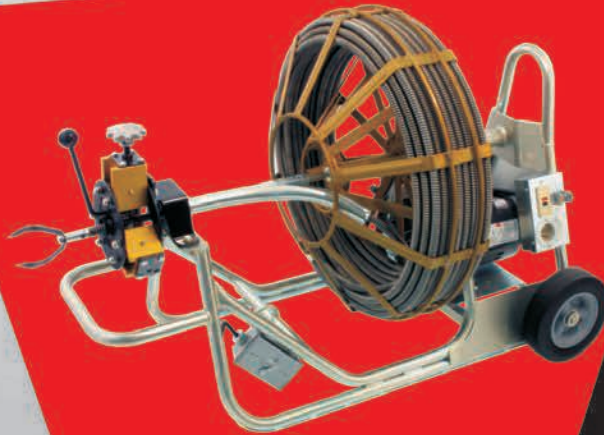


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Michael Williams

# Passing the Baton

An important part of business ownership is making sure someone is prepared to carry on your legacy

By Michael Williams

**T**he older generation has to be willing to pass the baton and let it go. If you have a business you've spent all your life building, do you want it to stop because you get sick or die?

When people say to me, "I can't find anyone to employ," I tell them to realize there are many who want to be part of this industry — but most of the time, your family should be the first option. Passing the baton is about the legacy.

Having someone there to take over when your candle blows out and you're unable to continue the business is so important. The goal is to keep that legacy alive.

You have to always be open to suggestions. You can still remain part of the business by sitting on the board of directors or being a consultant. Deciding to let go of control is a major decision and one not easy to accept. Like the saying goes: If you're rowing a boat with one oar, you'll go in circles. We all need help.

Change is inevitable. If you can't change gears, you limit your options for success. Other business owners come to me all the time asking for advice when they are worried about losing their business or if they want their business to grow. Bring some fresh ideas to the table by teaching the business to the next generation.

The person you learned the business from made mistakes, and you have, too. So understand that the person who will catch that baton and take over your business is also going to make mistakes. But with your help, they will make fewer mistakes. So if someone in your family is interested, let them be part of the business. If you keep pushing them off, they will end up doing something else or working for someone else.

I also see many women who are shut out of the family business. You have to let them get informed. You can't say she's a part of the business if she doesn't know your plan, the vendors or the business. At what point do you let her in? You have to be open, communicate about the business and let others help you.

Bad things happen to good people. Going out of business can happen as fast as blowing out a candle. If something happens to you,

What my grandfather did for me was pass the baton, and I want other business owners to do the same.

and if your wife, husband, partner, children or whoever would take over for you doesn't know everything about your business, you are setting them up to fail.

On the other side, if you are the one left on the edges of the business, you need to connect, communicate and let that person know how important it is to feed you the information to keep the business moving in case of emergency. If they are resistant, you may need to bring in a third party to help mediate the situation.

## BEGINNINGS

At age 6, I started working with my grandfather Arthur Williams, one of Philadelphia's first African American master plumbers. I would ride along and help him clean fittings or fetch parts. He taught me what everything was — fittings, the names of things — so later on I would be able to get things from the truck because I knew what they were. It was all about showing me the process.

I watched everything he did carefully, and he finally let me take a try with a pipe wrench. I was hooked. I also ended up learning other important things, like putting something under my knees so I wouldn't get arthritis. My last memory of working with my grandfather was him sitting next to me on a stool because he couldn't kneel down anymore. I had become my grandfather's hands, because he'd given me all that knowledge.

I feel lucky to have received so much one-on-one training. My education continued at technical school. My grandfather used to pick me up in his van, wearing his railroad hat and bib overalls. He would do a job, and if he knew the customer couldn't pay for it, he'd just say to pay him when they could. He would not leave a customer's house if there still was a problem. It wasn't about the money; it was about loving what he did. And that rubbed off on me.

What my grandfather did for me was pass the baton, and I want other business owners to do the same. There's no reason to work all your life just to have no one take it over. **c**

## ABOUT THE AUTHOR

Michael Williams is a high-energy, highly motivated drain cleaner and businessman. He is the owner of Just Drains LLC in Philadelphia, providing drain cleaning and plumbing services in the tri-state area. Williams welcomes calls from others in the industry. If you have questions for him or topic suggestions for this column, he can be reached at 215-879-8459.

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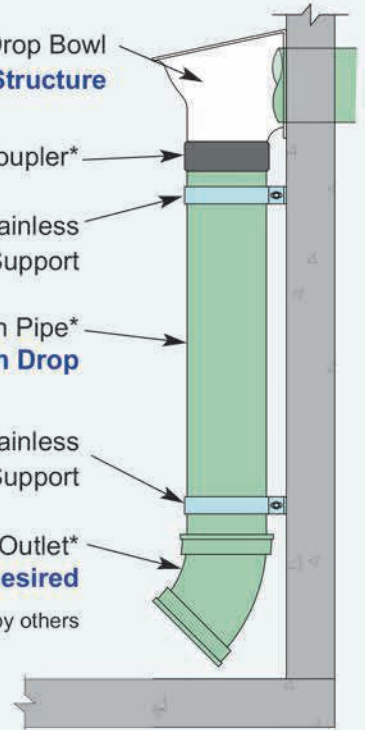
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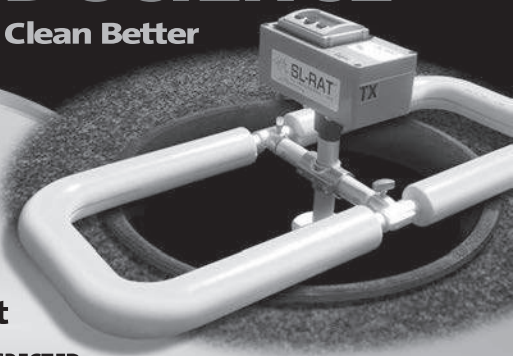
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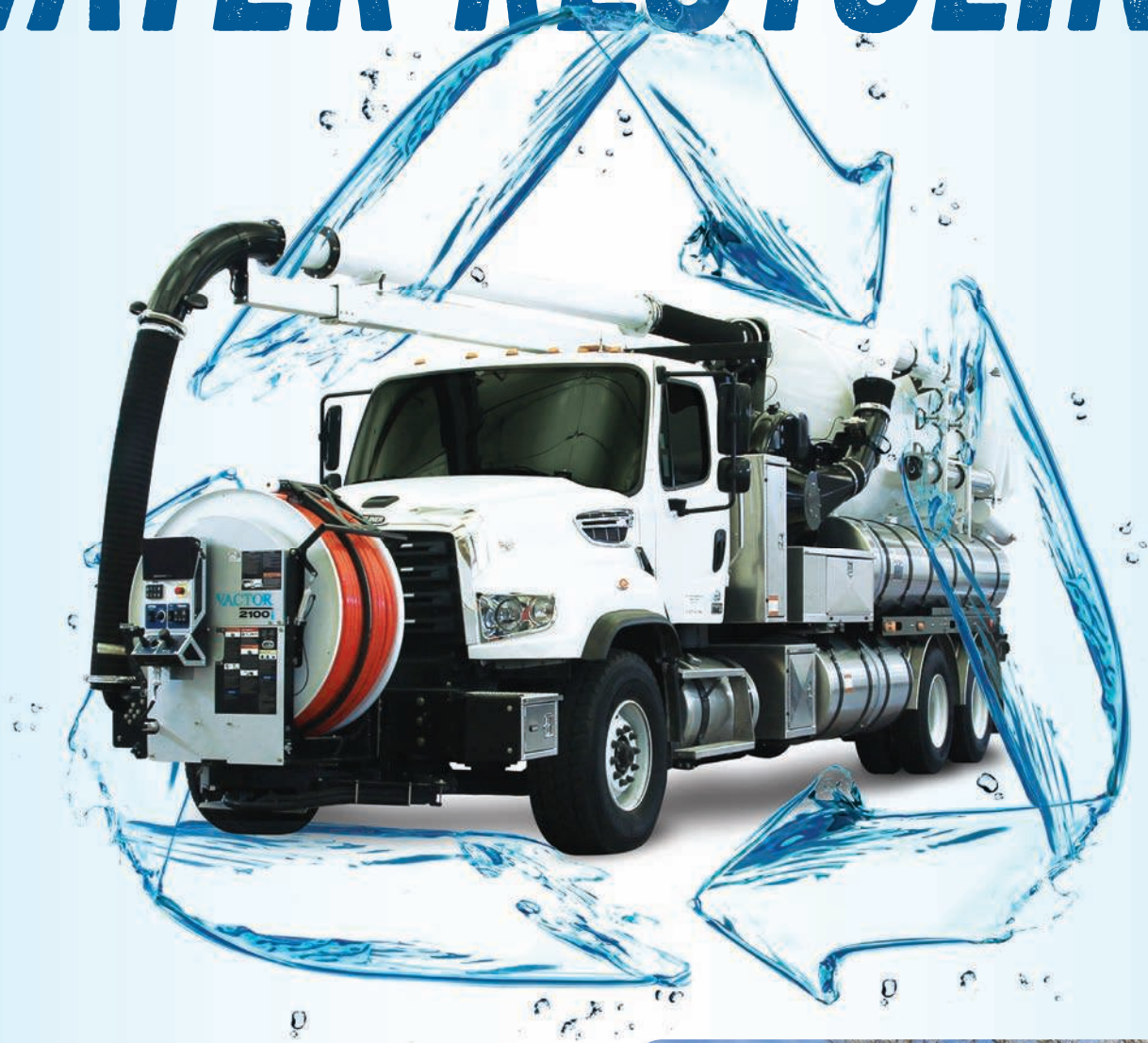
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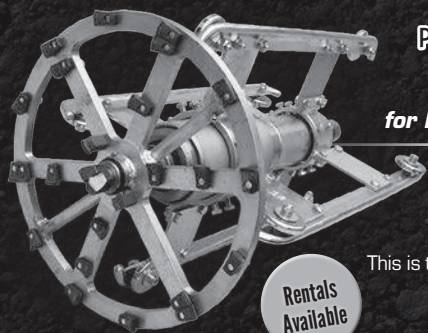
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Erik Gunn

# Make Money With Cash Reserves

Explore these options for earning some dollars on your operating assets

By Erik Gunn

If your finances are strong, you're holding three to six months of cash — perhaps more — to make sure you can cover bills easily without having to operate your business from check to check.

Cash reserves cover your ordinary bills along with the classic “rainy day,” such as when a truck breaks down and needs a major repair. Your reserves can be a lot of money, but you also need it ready at nearly a moment's notice. So what do you do with it?

Of course you can't put it in high-flying stocks. You can't take that risk if you want to pay your bills on time. The simplest and most risk-free option will be at a bank or credit union, where deposits are insured for up to \$250,000 by the Federal Deposit Insurance Corp. or the National Credit Union Administration. If you need more cash reserves than that, you may need more than one financial institution.

## MAKING IT WORK FOR YOU

By now you might be feeling antsy. *Just leave all that money in the bank, to sit there? When I could be investing it in the market and making a lot more money on it?* Well, yes. Who wants to see their cash reserves nosedive on one of those volatile trading days?

According to Bankrate, the average savings account nationwide is paying barely any interest (0.10% when this column was written) and the average checking account even less (0.08%). True, some banks offer special promotional interest rates on conventional checking or savings accounts. But those probably have fees tied to balance requirements or are limited to brand-new customers. Or the best rates might apply only up to a certain ceiling.

But there's good news. You don't have to park reserves in an account where they'll only deprive you of earnings you could make perfectly safely. The key? Don't keep all your money in these safe but interest-stingy accounts. Treat them simply as a holding pen

for the bills you're about to pay that month. For the rest of your reserves, there are better, and equally low-risk, choices.

## MONEY MARKETS

Money market accounts, usually with check-writing privileges, are among the most popular alternatives for holding cash that needs to be liquid but can earn some interest while waiting to be put to use.

“A money market is like an interest-bearing account,” says Melinda M. Toy, CTP, vice president and director of treasury management for PyraMax Bank, a full service commercial bank in suburban Milwaukee. “It's 100% liquid.” It's also insured by the FDIC. And Toy says economic factors and competition push money market interest rates into the range of 2 to 2.5%.

One consideration is that money market accounts limit you to six transactions a month. “It's not for paying frequent operating expenses,” Toy points out. But you could use such an account to hold your cash and simply make a single withdrawal once a month to cover all of your month's expenses.

Money market accounts also vary in minimum balance requirements. Some pay better returns tied to a higher minimum. As always, research the details of the account, shop around and compare several offerings.

## CERTIFICATES OF DEPOSIT

Another federally insured instrument is that old standby: the bank certificate of deposit. CDs pay interest, too. Unlike the money market, CDs tie up your money in return for somewhat higher interest rates. The higher interest you want, the longer the CD's term is going to be — three months to five years or even longer.

For liquid cash, that probably sounds like a non-starter. But there's a workaround. One longtime strategy is to “ladder” CDs — staggering their expiration dates so that at any one time you may be within a month or so of being able to cash in if necessary.

Here's how it works: Suppose you have \$20,000. Instead of putting it all in a one-year CD, you might buy a three-month CD for \$5,000, a six-month CD for \$5,000, a nine-month CD for \$5,000, and a one-year CD for \$5,000.

As each of the lower-interest-rate, shorter-term CDs expires, you roll the money over into a new one-year CD at a higher return. That way, you'll have one that comes due every three months in perpetuity. Nine months in, all four CDs together will earn the equivalent of a one-year yield on your original \$20,000. But you can still get access to the money in \$5,000 increments every three months.

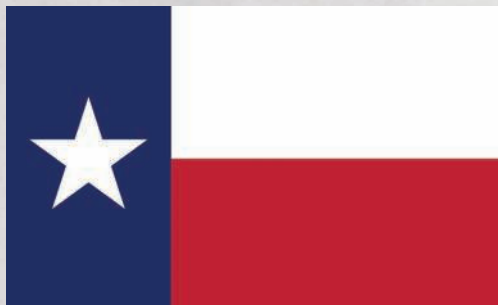
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You can employ the same tactic over much longer terms, and you can time expiration dates so they're closer together. Of course, shooting for a longer maturity date, a shorter time between CD expiration dates, or both will take longer to make it all.

Toy points to another recent offering from some banks and credit unions: so-called liquid CDs. "It's a CD, but it's kind of like a money market," she explains. It offers the higher earnings of a CD rate, but allows additional, though limited, access to funds. For example, Toy has seen some that permit at least one withdrawal without a penalty over the term of the certificate.

If your financial institution offers such an instrument, consider it. It won't be as liquid as a money market account, so you can't use it as feedstock to cover those monthly bills from your business checking account. But it does offer a secure, money-earning harbor for an emergency stash.

Then there's another CD variation, Toy says, one for clients who want the security and high interest of a CD but don't need liquidity, and who are managing reserves that exceed the FDIC limit of \$250,000.

PyraMax Bank and other banks are partnering with other financial service agencies to offer CDARS. The term is short for the Certificate of Deposit Account Registry Service, and what they do is essentially divide the assets of the instrument among several banks so that each bank's share is at or below the \$250,000 limit.

For example, if you wanted to put \$2 million into a CD with your participating bank, the program could then turn that into eight individual security interests, each totaling \$250,000. Your bank might have one security interest up to \$250,000, and one would be imputed to each of several other participating banks. But instead of having to deal with all eight banks, you only have to work with your home bank, and on paper it is still a single account with all \$2 million.

### ONLINE BANKING

Another option is an online bank. Bankrate reports savings interest rates of 2% or more from some online banks, which also offer money markets and CDs. Some can offer higher savings account interest rates because they don't have brick-and-mortar overhead costs. Bankrate periodically evaluates and rates the best of these banks; check their website at [www.bankrate.com/banking/best-online-banks](http://www.bankrate.com/banking/best-online-banks).

**"A money market is like an interest-bearing account. It's 100% liquid."**

Melinda M. Toy

As with traditional banks, however, they might require a higher minimum balance for the best rates. And you must do all your business electronically, so you can't deposit cash directly, although online banks offer ATM access for cash withdrawals. Many even reimburse you (although there's a monthly cap) if the ATM you use charges a fee.

Before choosing an online bank, carefully research fees for transactions, monthly account maintenance or falling below a minimum balance. A miscalculation could undercut any financial advantages you gain. And consider whether you are more comfortable working with a banker who can give you advice on the unique circumstances of your business.

### INVESTING

If your objective is absolute safety, you're better off sticking with a bank account of some kind. But as long as your funds are spread around, you could consider some additional options. They might make you money, but they aren't insured the way banks are. So you could lose money, too.

Dividend stocks are one of those options. Companies that pay dividends on their stock are usually thought to be more stable overall, so in addition to paying periodic dividends, their price may appreciate in a generally favorable market. Think tortoise, not hare.

But never put money in any particular investment unless you can afford to lose it all. The most rock-solid company could be one catastrophic event away from collapse, from a natural disaster, financial scandal or unexpected competitive disruptor. So whatever you do, don't consider those your short- or even medium-term emergency reserves. **c**

### ABOUT THE AUTHOR

Based in Racine, Wisconsin, Erik Gunn writes for magazines on business and other topics.

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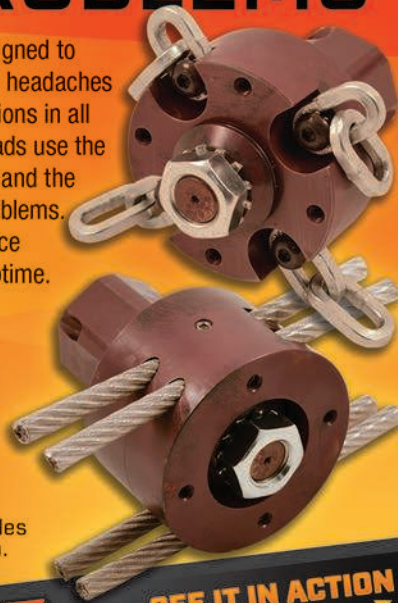
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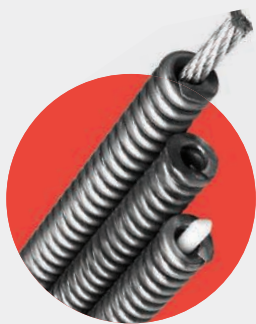
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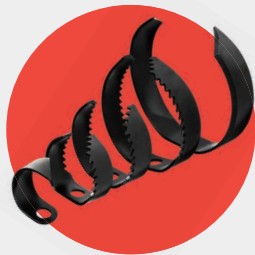
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## SPOTLIGHT

### Lightweight drain cleaner quickly clears small blockages

By Craig Mandli

All plumbers and drain cleaners are looking to boost job site productivity, while also staying on budget. That often proves difficult, though, as the tools of the trade have become more specialized. However, RIDGID recently introduced the FlexShaft drain cleaning machine, the company's latest high-speed drain cleaning innovation that is designed to quickly and efficiently deliver wall-to-wall clean in 1- to 4-inch residential and commercial pipes up to 75 feet.

"There was a need for a lighter, portable drain cleaner designed for smaller blockages," says Wyatt Kilmartin, vice president and general manager, Underground Technologies, RIDGID. "The FlexShaft, if used the right way, fills that need."

The lightweight and fully contained FlexShaft machines are used in conjunction with a full suite of specialized accessories designed for clearing grease, sludge, small tree roots and soft blockages with less mess and enhanced speed. The machines utilize powerhouse chain knockers that expand to the size of the pipe to quickly clear the entire circumference. The chain knockers are connected to a flexible, nylon-sheathed cable that is housed in a fully enclosed drum and powered by a cordless drill attached to the drive shaft. The FlexShaft machines are purpose-built to be a lightweight, compact solution that can be easily carried from work vehicle to job site with minimal strain on the body.

"This is a solution to a common problem many drain cleaners face, which is why we decided to build this machine," Kilmartin says. "For years we've seen drain cleaners attempting to build smaller, more versatile machines in their garages. This solves that problem, and because it's powered by a common cordless drill, the cost and weight is kept to a minimum. Every cleaner has a cordless drill in his truck."

Designed with efficiency and cleanliness in mind, the compact, 24-pound machine allows for inspection cameras to remain in the pipe throughout the entire drain cleaning process for maximum efficiency. The durable nylon sheath allows for the cable to be easily wiped clean as it is pulled from the line, and its fully contained drum limits job site cross-contamination.

"The FlexShaft machine is going to be the ideal solution for soft blockages, which is what most cleaners are facing on a daily basis," Kilmartin says. "We intended it for drain cleaning use in apartment complexes, restaurants and homes. That's its best market." 800-769-7743; [www.ridgid.com](http://www.ridgid.com).



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6

#### 4 SEWER EQUIPMENT MODEL 400 ECO MINI COMBINATION SEWER CLEANER

The Model 400 ECO Mini Combination Sewer Cleaner from Sewer Equipment has all-stainless steel construction for durability, including its 4-yard debris tank, water tank with up to 600-gallon capacity, hose reel with 400 feet of 1/2-inch sewer hose, and full shroud. It offers a UDOR U.S.A. 18 gpm at 4,000 psi water pump and a Hibon Inc. (a division of Ingersoll Rand) positive displacement blower at 28-inch Hg with a 4-inch system. The jet/vac truck utilizes a 19,500 GVWR chassis, requiring no CDL, and it also offers the ability to enter a standard 8-foot parking structure. 800-323-1604; [www.sewerequipment.com](http://www.sewerequipment.com).

#### 5 PICOTE SOLUTIONS SUPER MIDI MILLER

The Super Midi Miller from Picote Solutions is small and light enough to fit inside industry-standard jetting vans. It has a digital electronic control box and electric safety clutch, and it features an emergency stop button and shielded foot pedal. The unit comes with a double shaft, where the outer casing is stationary and the inner core rotates between 500 and 1,500 rpm, eliminating the need for the operator to directly handle any rotating part. The Super Midi Miller comes fitted with a standard 65.6 feet of flexible shaft with the option to add an additional 32.8 feet if required, and it's designed to work in pipes from 3 to 6 inches in diameter. 219-440-1404; [www.picotesolutions.com](http://www.picotesolutions.com).

#### 6 GENERAL PIPE CLEANERS 5R-10 SECTIONAL CABLE

The 5-foot-by-7/8-inch 5R-10 Force Multiplier sectional cable from General Pipe Cleaners/General Wire Spring is designed for many uses, including bathrooms, kitchens, basements and even roofs. The shorter 5-foot cable length provides better control, reducing the risk of spraying walls, floors, carpets and cabinets from exposed wet, spinning 15-foot cables. The short sectional design fits on 6-foot dropcloths without hanging over. The 5R-10 is compatible with General Pipe Cleaners' Root 66 and I-95 sectional drain cleaners. The Force Multiplier's R-connectors also fit other brands of machines, cables and attachments, and the open-wound hollow cables snap together in a second and can also be disconnected quickly and easily with a coupling key. 800-245-6200; [www.drainbrain.com](http://www.drainbrain.com). c



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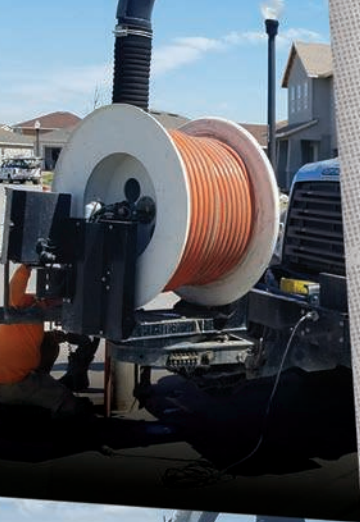
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### Avanti International celebrates 40-year anniversary

Avanti International is celebrating 40 years. Founded in 1978, Avanti began with only one product, AV-100 Chemical Grout, used primarily to seal leaking sewer lines. Over the decade that followed, the company added its first urethane product and held its first grout school training program. In the late 1980s through the '90s, Avanti continued to expand its product line, adding its first hybrid acrylic product, AV-118 Duriflex. Throughout the years, Avanti has maintained its commitment to providing education with grout school programs serving the municipal, industrial and geotechnical sectors.

### MyTana Mfg. releases employee handbook template

MyTana Mfg. released an employee handbook template. The free resource provides explanations, instructions and sample text to help plumbing and drain cleaning business owners clarify policies and avoid legal problems. A free copy of the template can be downloaded at [inbound.mytana.com/employee-handbook-template](http://inbound.mytana.com/employee-handbook-template).

### Waterline Renewal Technologies acquired by Behrman Capital

Waterline Renewal Technologies was acquired by Behrman Capital, a private equity investment firm based in New York and San Francisco. WRT was formerly a division of Triwater Holdings. WRT has a line of products and technologies offered through each of its brands — AP/M Permaform, ConShield Technologies, LMK Technologies and Perma-Liner Industries — that allow its customers to deliver solutions that repair sewer systems and wastewater lines without excavation or property damage and that prevent overflows created by excess inflow and infiltration of groundwater into wastewater systems.

### Wynnchurch Capital's industrial platform rebrands as Midland Industries

Wynnchurch Capital announced it has rebranded its industrial distribution platform as Midland Industries. The platform is comprised of Anderson Metals, Midland Metal, Buchanan Rubber and Mid-America Fittings. Midland Industries distributes and manufactures valves, fittings, hoses, couplings and related products.

“The new name helps us better communicate our culture and broad set of capabilities to our customers,” says Vince Hodes, CEO of Midland Industries. “The new brand reflects the company’s commitment to a unified strategy, and we’re very bullish about the growth opportunities ahead.”

### Electric Eel celebrating its 80th year

Electric Eel, based in Springfield, Ohio, since 1939, announced 2019 as its 80th year as manufacturer of quality drain and sewer cleaning equipment. Electric Eel’s current product line includes a wide range of electric and gas-powered sectional drain cleaning machines, drum-style machines, high-pressure water jetters and pipeline inspection camera systems and locators.

### NLB opens new branch in Louisiana

NLB announced the opening of a new rental and service office in Sulphur, Louisiana. The branch facility, located at 3473 S. Beglis Parkway in Sulphur, offers waterjetting customers a second Louisiana location to meet the needs of NLB’s growing customer base in the southwest Louisiana area. The branch will offer experienced sales and service to high-pressure waterjetting users in addition to the rental of water jet pumps and accessories and an inventory of NLB replacement parts. **c**

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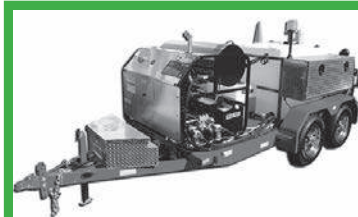
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2002 CUES CCTV inspection truck. Ford F550 SuperDuty, 7.3 diesel engine with 71k miles, 16' box. Onan 7.5 HDK diesel generator with 3k hours. CUES reel with approximately 1,000' of cable, CUES 1208 PCU. Call Mark for more information. \$45,000 OBO. 708-475-7116, Chicago area (CBM)



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