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ON THE COVER // Fifteen years after getting started in plumbing and four years after opening his own business, John Snyder presides over an expanding service company with a newly opened commercial storefront and a growing fleet of trucks. John Snyder Plumbing & Heating covers the Philadelphia area, providing a full array of plumbing services, including water heater installation, waterline repair, hydronic heating systems and drain cleaning. "We definitely are growing," Snyder says. "Four years ago, it really was just me and my old truck." (Photography by Hannah Beier)







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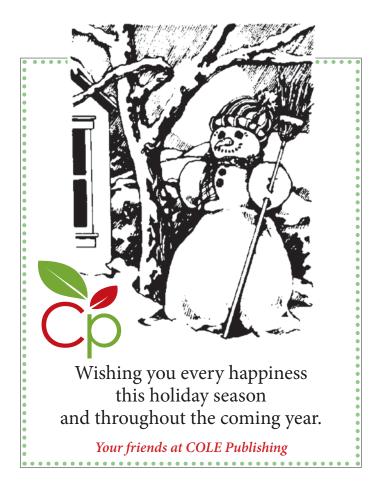
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- Scott H., owner & licensed master plumber, converted his business to Z PLUMBERZ in 2019

THE EDITOR

// Kyle Rogers

BRANCHING OUT

Don't let lack of knowledge hold you back from exploring new business interests



ECOMING A SPORTSWRITER used to be the dream. That was my general goal after I graduated college with a degree in journalism. Writing about the water and wastewater industries? Definitely not on my mind. But that's where I eventually ended up.

I've been at COLE Publishing eight years now, working on various publications, including Cleaner magazine, as a proofreader, writer or digital editor. Now I'll be taking on the role of print editor for *Cleaner*. My colleague Kim Peterson has done a great job helming the magazine the past few years, and prior to her Luke Laggis did the same. I hope to continue the standard they established.

It's been a circuitous journey. I did indeed become a sportswriter for a time, even if it wasn't as prestigious as working for ESPN or Sports Illustrated. My first job after college was in Florida covering high school sports. From there I transitioned to hard news, covering city councils, school boards and the crime beat. I did the same upon moving back to my home state of Wisconsin.

I wrote about the water and wastewater worlds on occasion. In broad strokes. A new wastewater treatment plant would go online, and I'd cover the effect on utility user rates. I didn't need to get into certain details. So, starting at COLE Publishing was eye-opening. Suddenly I was deep into details on things I had no prior knowledge about. CIPP lining? Waterjetting? Standard aspects of this industry were completely new to me.

It's been an education since, and I'm still learning daily. When I talk to family or friends about these various topics though, I sometimes feel like an expert. Their awareness is what mine was eight years ago. Of course, I'm not an expert compared to those of you who have worked in this industry for years, perhaps decades. But I've certainly expanded my knowledge since that first day at COLE Publishing, proofreading my first article.

It makes me think about this issue's theme: Diversification. I've spent my entire career writing and editing, but it hasn't been monotonous, teaching me a variety of things whether I've been on the sidelines at a high school football game, sitting in a county courthouse covering a jury trial or doing a ride-along with a septic pumper.

It's been a well-rounded experience, making me always willing to tackle a new area with my writing. If you lack knowledge, there's still the capacity to learn. To run a successful company, it's not imperative that you branch out and diversify your services. Many prefer to do the opposite and operate only within a specific niche. Both are fine approaches. Whatever you choose, I hope you at least maintain a willingness to explore new areas. You could suddenly become an expert in something unanticipated and ultimately help your business.

If you want to reach me, call 715-350-8442 or email editor@ cleaner.com. I look forward to connecting more with this industry and working hard to provide you relevant content in the pages of Cleaner.

Enjoy this month's issue. c



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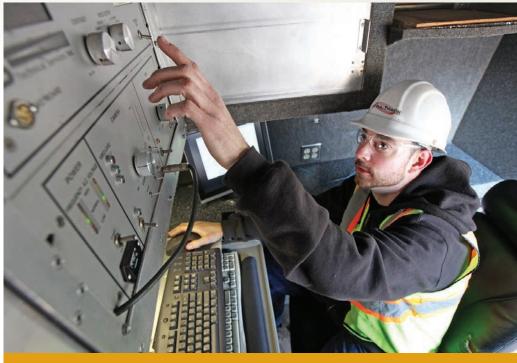
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LEARNING

A Proper Business Education

Pat Grogan owns Pat Plumbing, Heating and Air Conditioning in Topeka, Kansas. In this online exclusive, he discusses a couple key "partners" he has relied on over the years that have been big contributors to his success — one being the Nexstar Network, which has given him plenty of resources for advice and coaching. >> cleaner.com/featured



TOOL TALK

Optimizing Your Inspection Vehicle

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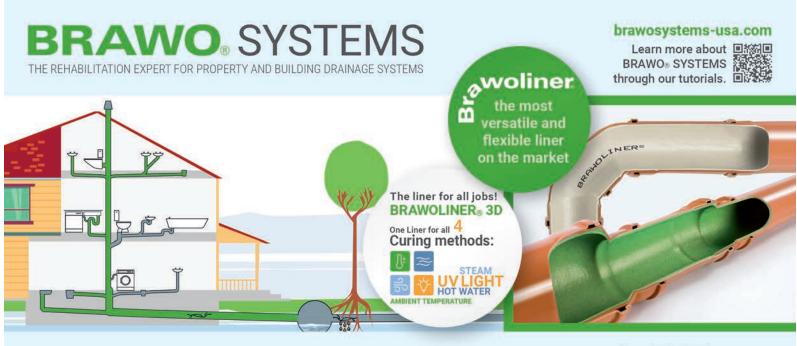


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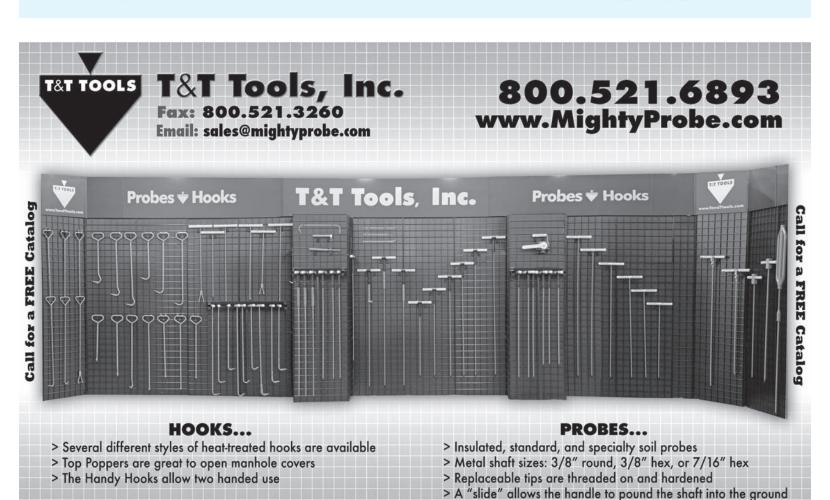








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Value of John Snyder, owner of John Snyder Plumbing & Heating, outside his shop in Philadelphia.

ACLEAR MISION

JOHN SNYDER'S START IN THE INDUSTRY WAS MORE HAPPENSTANCE THAN INTENT, BUT NOW HE'S THE PROUD OWNER OF A FOCUSED AND GROWING COMPANY PROVIDING A FULL ARRAY OF PLUMBING AND DRAIN CLEANING SERVICES

// By Giles Lambertson

Photography by Hannah Beier



ohn Snyder knows what he wants. That hasn't always been true of the owner of the Philadelphia plumbing and heating company that bears his name.

Snyder got into plumbing sort of by happenstance, became a master plumber as an afterthought, and only recently discovered the potential of drain cleaning after attending an industry show. As a professional, serendipity is his middle name.

Yet 15 years after he began plumbing and four years after he opened his own business, the owner of John Snyder Plumbing & Heating presides over an expanding service company with a newly opened commercial storefront and a growing fleet of trucks.

"We definitely are growing," he says. "Four years ago, it really was just me and my old truck. Now we have three trucks, the oldest being a 2019, and we're really busy. My personal expectation was that we should have been a little further along by now, but that's mostly just me being critical."

Nothing wrong with an entrepreneur being somewhat dissatisfied with the status quo. It's called motivation and Snyder is fully engaged now.



GETTING SERIOUS ABOUT THE INDUSTRY

Snyder was initially planning to be a high school history teacher after earning a degree from Marist College in New York. He knew he had to go to college to be successful — that's what his high school teachers told him. When he graduated, his father, a union welder, felt pride that his son was the first in the family to graduate from college.

But Snyder never made it into a high school classroom. He quit an interim administrative job at a hospital after growing



★ The John Snyder Plumbing & Heating crew (from left to right): Xavier Cornish, Anthony Alfonse, John Snyder and Khalil Reed.

EYE-GATCHING BRANDING

ohn Snyder credits his wife Megan with coming up with the unusual color scheme in the branding of John Snyder Plumbing & Heating. The two were at the dinner table one evening talking about the business he was about to open. Megan works in the media and marketing industry.

"How do I stand out?" Snyder asked her.

"Work on your branding. Maybe pick out a color that no one has," she responded.

Snyder suggested hot pink.

"I was totally kidding around, but she responded, 'That's an extremely fine line. If you can tiptoe that line, hot pink will be a hit."

Snyder decided to run with it. He came up with a logo idea, went to a graphic designer friend and instructed him to use pink in it.

"I told him that I wanted it as pink as possible without being obnoxious," Snyder says. "I told him to take it to a point where a little bit more would be too much."

His friend complied, toning down the bright pink in the logo some by pairing it with gunmetal gray and black elements.

Today, John Snyder Plumbing & Heating crew members wear hot-pink T-shirts and black hoodies. Trucks are wrapped with the pink-and-black logo and message.

"People love it," Snyder says.

When he started the business, he only had one truck. The colors stood out, of course, and people noticed it often and came to believe there was a fleet of pink-and-black plumbing trucks instead of just one.

"I'd get calls. 'Hey, I see one of your trucks," Snyder says. "My joke turned out to be a good idea. My wife is smarter than I am."

Which dovetails with a general truth Snyder believes about the importance of learning from others.

"I'm a firm believer that if you're the smartest guy in the room, you're in the wrong room."



disgruntled with shuffling papers and being micromanaged, then went home and told his father that he was unemployed. His father's terse advice was to get a job.

Snyder did so after an evening with friends, one of whom had started his own plumbing business and was looking for an apprentice. Snyder hired on.

"I didn't take it as seriously as I should have," he says. "I told myself that I was only doing plumbing until I found a career. After all, I had gone to college. But a couple years later, I was running a crew and I realized I was pretty good at the work and that I should take it more seriously."

The same lackadaisical attitude had resulted in him not seeking to become a master plumber, though he had worked at the trade for five years. He did officially start his apprenticeship at that point and has been a certified master of the trade for seven years now. Three years after becoming certified, Snyder started his company, finally fully engaged as a tradesman.

ADOPTING DRAIN CLEANING

When John Snyder Plumbing & Heating launched, Snyder offered customers the entire gamut of traditional plumbing services, from faucet replacement to water heater installation to heating systems that circulate heated water through pipes. He did not offer drain cleaning. That wasn't traditionally done in Philadelphia.

"There's a big thing in Philadelphia where a lot of master plumbers sub out drain cleaning rather than do it themselves," he says.

But after talking with friends in the drain cleaning industry, Snyder decided to add it to his menu of services.

"I realized how much money I was leaving on the table by not doing it," he says. "Talking with them really opened my mind to the opportunities and possibilities in drain cleaning."

About 18 months after opening his business, Snyder was also inspired by WWETT presentations in Indianapolis.



Khalil Reed, a journeyman plumber for John Snyder Plumbing & Heating, works on a job site in Philadelphia.

"I had my eyes opened, and not just about the aspect of cleaning drains," he says. "The real reason I got into drain cleaning was because it opened the way for drain repair work. That's where opportunities really lie."

"THE REAL REASON I GOT INTO DRAIN CLEANING WAS BECAUSE IT OPENED THE WAY FOR DRAIN REPAIR WORK. THAT'S WHERE OPPORTUNITIES REALLY LIE."

JOHN SNYDER

FOCUSING ON RESIDENTIAL PLUMBING WORK

Snyder hasn't turned his back on his plumbing roots, of course. After all, drain cleaning isn't even in the company name. Snyder is steadily growing his plumbing business and has reshaped it to his liking. Early on as company owner, he targeted big commercial plumbing contracts. He

soon realized that was not the right track.

"When you're dealing with the big companies, you get lost. You see a contract and you think you're going to get rich, but when you break it down, you make just as much doing residential work and you get paid every single day," Snyder says. "I remember on one



Snyder initially earned a bachelor's degree with plans to become a high school history teacher before eventually finding his way to the plumbing trade.







≈ John Snyder likes to focus on the residential market, which makes up about 90% of his workload. "You see a contract and you think you're going to get rich, but when you break it down, you make just as much doing residential work and you get paid every single day," he says.

≪ Anthony Alfonse cuts a cast iron fitting on a job site in Philadelphia.



commercial job I was doing the finish work when I received my first check. I was financing those guys' jobs. Meanwhile for me, there was a lot of robbing Peter to pay Paul."

Fully 90% of his service work now is residential. He does have commercial accounts, some of them contractual, with small businesses like restaurants and bars. Smaller jobs and quicker payoffs — that's the working formula for the company.

The heating segment of Snyder's business is seasonal.

"No one needs a boiler replaced in August," he says.

Because the company doesn't do any forced-air heater work, dealing exclusively with hydronic systems that rely on heated water circulating through floors, it doesn't do any air conditioning work either.

"I am a firm believer that my guys and I are plumbers," Snyder says.

Still, he declines to pigeonhole himself within the industry.

"One of the things I really don't like in our industry is guys who say, 'I am a rough-in plumber,' or 'I'm a service plumber.' I don't buy into that. The way I put it is, if water runs through it, we do it."

A FULL ARSENAL OF EQUIPMENT

Each of Snyder's three service techs is cross-trained to provide any company service, which makes scheduling of service calls easier for his office person. Whoever is in the area or is free can be assigned a call. One of his techs, Anthony Alfonse, has the second most experience in the company. He began working with Snyder when both were employed by his friend's plumbing company. Khalil Reed is a journeyman and Xavier Cornish is an apprentice.

Service trucks are outfitted with Milwaukee power tools. All drain cleaning equipment is RIDGID — Snyder's favorite camera is a RIDGID M40 with a CS6X monitor.

"ONE OF THE THINGS I REALLY DON'T LIKE IN OUR INDUSTRY IS GUYS WHO SAY, 'I AM A ROUGH-IN PLUMBER,' OR 'I'M A SERVICE PLUMBER.' I DON'T BUY INTO THAT. THE WAY I PUT IT IS, IF WATER RUNS THROUGH IT, WE DO IT."

JOHN SNYDER





"WHEN I STARTED ... I BOUGHT WHAT I COULD GET AT A GOOD PRICE. THEN I REALIZED I NEEDED TO SPEND MONEY ON BETTER EQUIPMENT TO AVOID DOWNTIME."

JOHN SNYDER

"When I started cleaning drains, I bought what I could get at a good price," says Snyder. "Then I realized I needed to spend money on better equipment to avoid downtime. That's when I went with RIDGID."

Most of the water heaters he installs and works on are Bradford White, a Pennsylvania company that dominates the market in Philadelphia. He works with PVC and PEX plastic piping, cast iron pipe and copper tubing, whatever is called for by plumbing codes in the city. Most of his pipe work is in the 4- to 6-inch range, though he has worked on some 12-inch pipe.

When a job calls for digging, Snyder subs out the task for now. He finally has commercial space with an equipment yard, so he plans soon to pick up an excavator and a compressor and do some excavation work himself.

"Some sewer mains are 12 feet down and I'll still give that work to the subcontractor," Snyder says. "They are really, really good operators. One guy can pick up a quarter with his backhoe. When we have to go that deep and shore up the walls, I want them there to make sure we all go home safely."

Xavier Cornish (front) and Khalil Reed (back) work on a job in Philadelphia. All John Snyder Plumbing & Heating service techs are cross-trained to be able to provide any company service.

Eventually having his own excavation equipment will be more than a plus for billing. It will also help him stay on schedule in responding to customer calls.

"One of the reasons I want to get a mini-excavator is the scheduling," Snyder says. "There are times when something needs to be dug out and I call my subcontractor and get, 'Well, I'm booked up for a week and a half.' That doesn't help my customers."

Snyder snakes clogged pipes and has a Picote Mini Miller for descaling them. On his to-get list is a jetter for flushing lines, but a hydrovac unit to clean out a line is not likely to be in his equipment yard any time soon. One reason: In Snyder's words, "Philly is an old tool city."

Only a year and a half ago, according to Snyder, did Philadelphia officials allow pipe bursting in the city. Lining is still not allowed. Therefore, he feels investing in trenchless technology like lining and coating equipment is pointless at the moment, though he likes what

"I don't get enough calls to justify spending a hundred grand on pipe bursting equipment. But bursting and lining are definitely on my radar," Snyder says. "In a year or two, the city may allow lining. One of the things I'm focusing on is developing a relationship with lining companies so when Philly does allow it, I can hit the ground running."

A BRIGHT FUTURE

All in all, John Snyder, who just turned 40, feels good about the future of his company. He has his eye on new products and services — like pipe lining — to offer his customers. He is on pace to put a couple more trucks in service in the next year, which will allow him to assume more of a managerial role in day-to-day operations. The hydronic heating side of the business is poised to expand because of the rising cost of heating oil.

And his drain cleaning work is becoming a sizable component of his business.

"It really is growing," Snyder says. "Diversifying into drain cleaning helped me make more money and has increased the number of repair jobs and digging jobs. When we go in and put that camera down there and show customers what's going on, it makes sales so much easier. It really has helped my business." c

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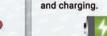
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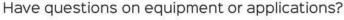
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MANAGER



Joan Koehne

BUSINESS ACQUISITION 101

Growth through acquisition can be a smart way to build your company if you're willing to practice patience and carefully navigate the necessary steps // By Joan Koehne

ROWING YOUR COMPANY through acquisition isn't a sudden process. Rather, business acquisition requires a highly structured and detailed series of

Acquisition typically takes six months to a year from the date of going to market to closing. Before all parties sign on the dotted line, the buyer and seller must agree on all aspects of the transaction, which may require lengthy negotiations.

"The new and the old business owner need to get along to make this work. They need to be compatible," says Mike Demerath, an attorney at Hager, Dewick & Zuengler, S.C. in Green Bay, Wisconsin. "Otherwise, a smooth transition may be difficult to achieve. If there's a lot of back-and-forth and digging in heels as a part of the initial negotiation of the contract, that is a concern on the buyer's side. If things get adversarial, it's not a good sign. It may be best for both sides to move on."

"TRUST IS WHAT GETS A TRANSACTION THROUGH THE FINISH LINE. ... WITHOUT TRUST, IT GETS UGLY." JOHN KELLY

Some sellers have a hard time stepping aside, and it's easier to sell when they like the buyer who's taking over, Demerath says.

"It needs to be a good relationship, not just in negotiating to reach a resolution but in the day-to-day after closing," he says.

Trust and transparency are keys to a smooth transaction, says John Kelly, principal mergers and acquisitions adviser at Kelly Business Advisors.

"Trust is what gets a transaction through the finish line," he says. "If you feel like trust is building, you are likely to get across the finish line. If trust is eroding, call it what it is and walk away. Without trust, it gets ugly."

TAKING ON LIABILITIES

Most businesses sold today are asset sales versus entity sales. Buyers prefer an asset sale because they don't take on the seller's liabilities. In the purchasing agreement, buyers should establish what liabilities they're taking over, if any. Buyers can accept only the liabilities they want, such as customer contracts, vendor agreements, orders, current jobs and leases.

"Make sure titles to assets are free and clear," Demerath says. "Check if there are any liens, and make sure they're paid at the time of closing."

Liens are only one of the details to check during a due diligence period in which the buyer gets access to the seller's business operations, facilities, equipment and financial records. Buyers shouldn't only rely on what the seller is telling them. Instead, they should validate the details themselves or through a third party like an accountant (for financial statements) and a title company (for real estate).

"Make sure what you think you're purchasing is what you do purchase," Demerath says.

Dig into the business to determine if any issues are pending like litigation or environmental hazards.

"You don't want to buy a business that is having issues that hurt its reputation," he says.

Also determine if the company is as profitable as advertised.

"Make sure you're buying a good business, a business that's making good money," Kelly says. "It's very hard to turn around a business that's not making any money unless, perhaps, you are an expert in that industry."

Equipment is another important component of a transaction. Buyers should inspect the equipment to determine its age and condition, so they know what investment might be necessary to repair or replace equipment and still sustain and grow the business.

EMPLOYEE CONSIDERATIONS

Employees are a huge element to consider in a business acquisition. Due to today's labor shortage, companies are buying businesses for

the employees as much as anything else. Buyers should determine if key employees plan to remain with the company. To do so, they should structure a purchase contract with a condition allowing them

to talk with key employees before closing and potentially reach an agreement with them to stay with the organization.

"The seller may have stay agreements in place with key employees, giving buyers confidence that the key employees will remain with the company," says Kelly.

"Part of a meeting with the key employees is to get a sense if you're going to mesh with them," Demerath says. "If the key employees don't like the buyer, they might leave and compete against the business, and that can become a serious concern for the buyer."

To prevent this scenario, buyers should draft a noncompete agreement for employees. A noncompete is especially important if the owner isn't involved in the business much and the key employees are running operations and meeting with customers. Buyers will also want to draft a noncompete agreement for the outgoing business owner and negotiate terms for them to assist with the transition to new ownership. They may become a consultant for a period of time or stay on as an employee. Kelly recommends a tapered schedule for the transition.

"If you need the seller around, for the first 30 to 60 days, it's all hands on deck," he says.

However, after the first 30 days, the seller should work on transitional items and not everyday operational tasks. After the first 30 to 60 days, assuming the seller wants to transition out of the business, the seller should work up to 20 hours a week. After 90 days, the seller should work up to 10 hours a week.

"Have the seller take off one out of every four weeks to allow for the transition of roles, duties and responsibilities," Kelly says. "Make sure the seller doesn't feel trapped in the business after closing."

The purchase agreement should include the seller's compensation and work schedule — and maybe health insurance coverage, too. If the

seller is staying long term, having a salary and bonus plan makes sense. If the seller is only staying for the transition, paying the seller hourly allows both the buyer and seller to avoid an awkward conversation



MONEY MANAGER

down the road about compensation. The truth of the matter is that a seller and the seller's family members working in a business typically do not stick around as long as they plan to.

OTHER FACTORS

When analyzing a business to purchase, buyers should look closely at the owner's role.

"Ideally the owner isn't doing much," Kelly says.

If the seller is working a lot of hours, the buyer may need to step in to run the business or hire a manager to replace the owner. These scenarios need to be considered prior to acquisition. Facilities matter, also. Depending on the circumstances, buyers may or may not want the seller's facility. The status of real estate and property leases are important to research during the due diligence period.

Buyers should also review contracts and permits the seller has in place with government agencies, vendors and customers. Whether these are formal agreements or handshake promises, Demerath recommends asking two questions:

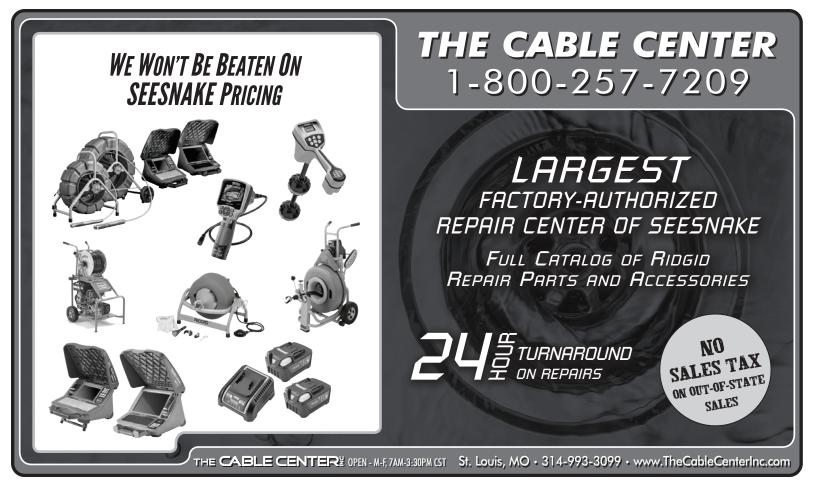
1. Can the buyer take over these contracts?

2. How long post-closing are the contracts locked in?

Lastly, buyers should consult with a lender to secure financing that fits their needs and minimizes risk. They might consider seller financing, in which the buyer pays the seller monthly, or an earn-out, in which the seller receives a percentage of new business generated or based on another performance metric. These are just two of the many ways to finance a business acquisition.

"There's a million ways to structure these deals. If you get to a million, there's a million more," Kelly says.

Although every transaction looks different, the goal of a successful acquisition is to purchase a company with a strong foundation, fluent operations, the right employees, a loyal customer base and steady revenue. Entrepreneurs and business owners have an advantage when they purchase a company instead of opening a startup. They take ownership of a company that is already well-established and making a profit, whereas it takes months or years to establish a business from scratch that performs at the level of the business they are acquiring. But before buying an existing business, it pays to do research to make certain the transaction will work for all parties involved. **c**



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DIVERSIFICATION

PRESSURE DISTRIBUTION SEPTIC SYSTEM BASICS

Incorporating knowledge of several types of pressurized distribution specified for septic tank effluent can improve service on maintenance calls // By Jim Anderson

EW PEOPLE ARE ALWAYS coming into the industry and technicians are expanding their knowledge and skills. Given that, here is a brief overview of pressure distribution systems.

The primary reason we move to pressure distribution systems is to overcome a variety of site and soil characteristics where conventional gravity flow systems are not feasible or the environmental conditions so sensitive, they should not be used. These conditions include shallow soils over bedrock, soils and sites with high water tables, slowly permeable soils and very rapid permeability soils. Basically, any condition where treatment capacity of the soil is limited.

PRESSURE DISTRIBUTION ALLOWS US TO APPLY EFFLUENT MORE UNIFORMLY THAN GRAVITY OVER THE ENTIRE SOIL DISPERSAL AREA AND OVER THE DAY, NOT JUST WHEN THERE IS A WATER-USING EVENT IN THE DWELLING.

ENHANCING TREATMENT

Pressure distribution allows us to apply effluent more uniformly than gravity over the entire soil dispersal area and over the day, not just when there is a water-using event in the dwelling. Pressure distribution networks are also used within or after advanced pretreatment components, allowing enhanced treatment for nutrients such as nitrogen.

Pressure distribution includes pressure dosed to a gravity soil treatment unit, low pressure distribution, drip distribution and spray dispersal. Pressure dosed to gravity involves delivering effluent under pressure to a bed or series of trenches, then using gravity to distribute the effluent. Low-pressure systems are used with a manifold in a trench or bed configuration, with the entire distribution network pressurized while the pump is running. Similarly, pressure distribution networks in media filters are

also fully pressurized. Both result in effluent being uniformly distributed across the treatment area.

Drip distribution is another form of pressure distribution, with the same objectives of distributing effluent uniformly over the treatment area in time and space. It uses tubing with flow-regulating emitters installed at varying depths in the soil, usually 6 to 12 inches.

Pressure-to-gravity is used where soils are more suitable at an elevation higher than the house, or the house sewer exits too deep to allow for gravity and maintain separation from a limiting soil condition. A pump and dosing tank are added following the septic tank. Effluent is then pumped to a distribution or dropbox and distributed by gravity in parallel or sequentially. My choice in these situations is to use sequential distribution allowing for more management.

Low-pressure distribution uses small diameter (1- to 2-inchdiameter PVC) for the manifold and laterals. The distribution laterals have small-diameter orifices (1/8- to 3/16-inch). A low-pressure effluent pump is used to pressurize a manifold, which splits to flow to the network of laterals in the soil treatment area.

It is important to recognize the pump and distribution network are designed together to deliver the desired dose at a determined hydraulic head. If the pump needs to be replaced at some point, it needs to be with one that will deliver the same flow in gallons per minute and operate at the same hydraulic head. If not, effluent will not be distributed uniformly over the area. When working on pressure distribution systems, a service provider needs the initial design specifications to properly evaluate and maintain the system.

ORIFICE SIZE

Low-pressure systems can operate with septic tank effluent or following advanced pretreatment in an aerobic treatment unit or media filter. The type of effluent distributed will help determine the size of orifices. With more highly treated effluent, orifice size can be smaller, since there will be fewer problems with orifices plugging.

Distribution laterals can be installed in separate soil treatment

trenches fed by the manifold or in bed configurations. Bed configurations are generally used in soil treatment mound and at-grade systems. When pressure is used in media filters it is essentially the same, just it is usually done in some type of container.

While drip is also considered a pressure system, it is very specialized. As indicated above, the goals are the same in terms of delivery and treatment, but it is a unique system. Some drip systems are marketed to operate with septic tank effluent and others require aerobic treatment in front of the system. The system consists of the pretreatment device, a dosing tank, pump and controls, flow metering device, filtration headworks and the dripfield.

Effluent is stored in the dosing tank until it is delivered to the soil treatment area. Typically, a high head multistage turbine effluent pump delivers the water through the filtration headworks to the drip tubing with emitters.

A control system regulates the dosing to the field. This allows even distribution across the area and throughout the day. Some systems have built-in automatic filter backwashing and field-flushing capabilities, which operate periodically to flush the lines reducing emitter plugging and maintaining equal distribution. Since the emitters have small openings, the ability to flush the lines periodically is an important maintenance feature.

The dripfield is constructed of drip tubing approximately 1/2-inch in diameter with an emitter welded into the tubing wall. Pressure inside the tubing is operated at 15 to 45 psi, while the water exits the emitter at 0 psi. The tubing is placed along the contour to form a run. They can be connected directly to the supply and return manifold as a ladder-shaped zone or be looped together and then connected to the manifold on the same or opposite end of the zones.

The type of pressure system selected will be determined by state and local requirements and the specific site and soil conditions encountered. c

ABOUT THE AUTHOR

Jim Anderson, Ph.D., is an emeritus professor at the University of Minnesota Department of Soil Water and Climate. He works with the National Association of Wastewater Technicians and is a recipient of the pumping industry's Ralph Macchio Lifetime Achievement Award.



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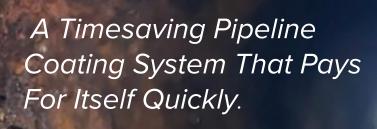












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STEVE RUSSO HAS TAKEN A CAREFULLY CALCULATED APPROACH IN BUILDING HIS STILL YOUNG DRAIN CLEANING AND SEPTIC SERVICES COMPANY INTO AN EFFICIENT AND WELL DIVERSIFIED OPERATION

// By Ken Wysocky



Steve Russo, owner of Mid-State Septic & Sewer, and wife Julianne.

hether deciding to buy new equipment, selecting the most cost-effective marketing approach or determining what services to provide, Steve Russo takes a calculated and reasoned approach and lets the numbers be his guide.

That conservative financial approach has served the owner of Mid-State Septic & Sewer well. In only two years, the company — based in Marlboro, New Jersey — has built a solid customer base and assembled a decent-sized roster of equipment for a one-man operation.

Drain cleaners interested in diversifying their services might consider Russo's strategy of pairing septic and drain cleaning work — two complementary services that require similar skill sets, provide a bit of equipment overlap and offer opportunities for cross-marketing. The company currently offers drain cleaning services in addition to installing, repairing and inspecting septic systems.

Russo's calculated financial approach also offers a playbook for success for growth-minded drain cleaners.

"I definitely was pinching pennies when I first started out on my own in 2020," says Russo, 33. "I was very calculated about everything. I established





fixed numbers for things like investing in advertising and equipment and paying for insurance. I treated everything pretty mathematically. I knew it was a risk jumping out on my own and I definitely didn't want to go belly up. So I spent countless hours breaking down costs to make sure I wasn't running down a rabbit hole and losing money."

Photography by Steve Hockstein

GETTING THE WORD OUT

Russo's approach to marketing reflects his overall philosophy of getting the biggest bang for your buck.

Because he was a market newcomer, Russo couldn't immediately rely on the best form of advertising: word-ofmouth referrals. So he invested wisely in building brand recognition in a competitive market for septic services.

"Advertising was huge, especially as a new business," he says. "I think the most effective form of advertising was paid ads on Google."



Russo opted for a marketing program that pushed his company name to the top of searches for septic services for only a percentage of each day. The cost? A flat rate of about \$1,000 a month, he says.

"It was kind of a weird marketing model, but it really worked," Russo says. "Plus it fit my approach to business because with a fixed monthly rate, I knew how much revenue I needed to generate to cover that payment. Paying for that prime



 $\mbox{\ensuremath{\checkmark}}$ Steve Russo prepares to install a new Infiltrator IM-540 septic tank on a job in New Egypt, New Jersey.

Laborer Mike Kraemer levels the new Infiltrator IM-540 septic tank.

"IT MADE SENSE TO ... BECOME A ONE-STOP SHOP FOR CUSTOMERS. IT'S NOT LIKE DRAIN CLEANING IS APPLES AND SEPTIC SERVICES ARE ORANGES. THEY'RE BOTH SOMEWHAT RELATED AND COMPLEMENT EACH OTHER."

STEVE RUSSO

online real estate on Google even for just a percentage of a day generated about three to four phone calls a day. And when you're working by yourself, that's more than enough to keep you busy."

SOLID WORK ETHIC

Russo gained valuable experience in utility work while working for his father, Sam Russo, who owned a company that did site work for commercial buildings, such as installing gas and sewer lines.

"College was there for me if I wanted it," Russo says. "But I was running equipment for my dad when I was 8 years old, so I was ready to work."

After attending a vocational high school, Russo worked for his father for about 13 years. In 2020, he decided to start his own business. And so Mid-State Septic & Sewer, named because Marlboro is in the middle of New Jersey, was born.

Russo opted to do drain cleaning and basic septic system maintenance and repairs for a few reasons: He could provide those services by himself. He was familiar with running machines. And offering more than one service made sense.

"I had to be realistic and you don't need a crew of guys to do septic work or drain cleaning," Russo says. "Plus I saw the stress my dad always was under while doing site work and commercial jobs. I didn't want that, so I kept things small and manageable."



DIVERSE SERVICES

Russo started out by doing septic system inspections and repairs and cleaning drains. He eventually started doing system installs, as well.

"I definitely struggled at the beginning," Russo says. "Anyone who tells you that running a business is easy probably hasn't ever run one."

Providing more than one service was critical to building enough business volume to sustain operations.

"You have to do a little bit of everything — it's much better than doing just one thing," Russo says. "That's how I started out and it made sense to keep going that way and become a one-stop shop for customers. It's not like drain cleaning is apples and septic services are oranges. They're both somewhat related and complement each other."

Providing one service can also lead to customers needing another one. For example, Russo notes that a septic system

inspection with a pipeline camera can expose a blockage in a drainline. And if a thorough cleaning reveals failing lines, it could lead to a more lucrative installation job.

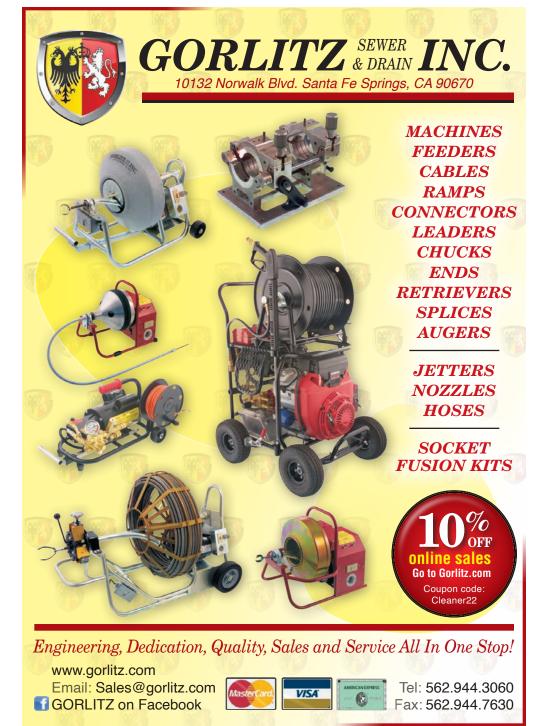
"Inspections and drain cleaning are a good way to get your foot in the door," Russo says.

Today, drain cleaning generates about 10% of Mid-State's revenue, with septic services particularly system installations — generating the balance.

"Installations have really taken off for me," Russo says. "That's my biggest market niche."

"I TREATED EVERYTHING PRETTY MATHEMATICALLY. I KNEW IT WAS A RISK JUMPING OUT ON MY OWN AND I DEFINITELY DIDN'T WANT TO GO BELLY UP."

STEVE RUSSO



EVERY JOB STARTS WITH A THOROUGH CAMERA INSPECTION

hen asked to name an indispensable piece of drain cleaning equipment, Steve Russo - owner of Mid-State Septic & Sewer in Marlboro, New Jersey — says without hesitation it's his EasyCAM E5200 pipeline inspection camera.

"All our jobs seem to start with a camera," he says of the E5200 (now called the SL200). "It definitely makes my life a lot easier. The last thing any customer wants to hear is, 'I don't know what the problem is, so I'll have to dig up your yard to find out.' It's so much better when you tell a customer what you found via the camera, then have a conversation about what needs to be done to fix the problem. Otherwise it's like looking for a needle in a haystack."

Russo says he's tried several other camera brands, but the EasyCAM checks off many important boxes - ease of use, durability and great customer service. He particularly likes the ability to narrate videos, which allows him to explain what he's seeing as he cameras a line.

The battery-powered unit, which features a sturdy, powder-coated aluminum frame, can also record to an SD card, USB thumb drive or a Wi-Fi app, all of which makes transferring videos to customers a snap. A powerful locator sonde in the camera head tells Russo exactly where a problem is located and a depth-finder feature shows how deep it is. Plus 200 feet of push cable allows him to camera even the longest sewer laterals.

Russo says he uses the tool for emergency drainline clogs as well as for routine maintenance and cleaning of sewer lines. For example, he has a contract with a management company that operates 14 strip malls. Every six months he inspects sewer lines at the strip malls in order to more efficiently clean the lines.

The camera cost Russo about \$6,000 when he bought it several years ago (the SL200 now retails for \$8,995). But he says it was a worthwhile investment that has more than paid for itself.

"It's the No. 1 piece of equipment I take out of my van," he says. "It's definitely more expensive than some cameras, but it really gets the job done and the customer service is amazing. I'd never buy another brand of camera."



≈Mike Kraemer and Steve Russo use an EasyCAM E5200 camera to inspect a septic system at a home in New Egypt, New Jersey.

EQUIPMENT MATTERS

Providing various services requires a diverse fleet of equipment. For drain cleaning and inspecting/maintaining septic systems, Russo relies on a Model C sectional drain machine from Electric Eel Mfg., two EasyCAM E5200 pipeline inspection push cameras (now called the SL200) and an EasyCAM pipeline locator.

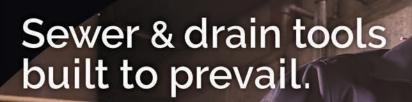
For the septic system installation side, Mid-State owns a KX-80-4 Kubota mid-size excavator; a Bobcat T650 skid-steer; a Kubota KX91-3 mini-excavator; an International tandem-axle dump truck with a 25-cubic-yard dump body from Ox Bodies; a Komatsu D38P bulldozer; a 20-ton flatbed trailer made by Interstate Trailers; a 20-foot equipment trailer from Big Tex Trailers; and a tilt-deck equipment trailer from Kaufman Trailers.

The company also owns a 1997 Ford F-350 equipped with an 8-cubic-yard stakebed body built by Reading Truck and a 2016 Ford E-350 service van with a Supreme Corp. body.

Investing in good equipment was essential because as a one-man operation, Russo can't afford equipment breakdowns and must maximize efficiency and productivity. Like thousands of other contractors nationwide, he says he is feeling the effects of the

"I was prepared to work alone for a while, but I didn't think it would be this long," Russo says. "I was planning on working alone for about a year, just to get my feet wet, then start looking for some help. But I don't even see that in the near future. It's really tough to find the right person. I'm constantly looking. But it's hard to find someone you can really trust and that does quality work. I need help, but I can't just go out and get it, which leaves me between a rock and a hard place."











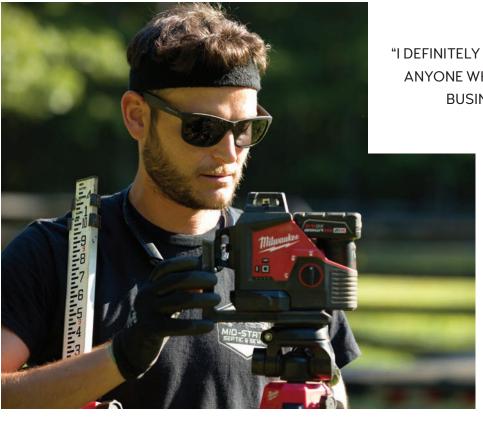




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CABLE ATTACHMENTS



≈ Mike Kraemer sets up a Milwaukee 3632-21 M12 Green 360-degree threeplane laser on a septic tank installation job in New Egypt, New Jersey.

Steve Russo and Kraemer use a Milwaukee drill to snake out a septic system at a home in New Egypt, New Jersey.



"I DEFINITELY STRUGGLED AT THE BEGINNING. ANYONE WHO TELLS YOU THAT RUNNING A BUSINESS IS EASY PROBABLY HASN'T **EVER RUN ONE."**

STEVE RUSSO

The labor issue is especially frustrating to Russo because it's hindering his ambitions for growth.

"I hate saying no to business," he says. "But sometimes I have to. I know my limitations."

STILL EYEING GROWTH

Despite the grim labor outlook, Russo says he is optimistic about expanding Mid-State in the long run. Despite the strong area competition, there's plenty of work to go around.

"I'm going full steam ahead," he says. "The equipment is there - now I just have to find the workforce. Hopefully that comes sooner than later."

After he hires a few people, Russo says he envisions obtaining a waste-hauling license, then investing in a vacuum truck and expanding into pumping septic tanks — yet another logical bolt-on service with even stronger cross-marketing potential. He'd also like to invest in a water jetter to handle larger drain cleaning jobs.

Is Russo surprised at how far he's come in only two years? Definitely, he says. But he's nowhere near ready to rest on his laurels.

"If I could work eight days a week, I would," he says. "I'm definitely not topped out yet. There's plenty of work out there." c

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DIVERSIFICATION



Anthony Pacilla

WATER HEATER SERVICE KNOW-HOW

Water heater installs can be made easier with these helpful tips // By Anthony Pacilla

SERVICE PLUMBER'S DREAM come true is to repair and replace water heaters all day, right? Pretty straightforward work after you get the hang

But what happens when things don't go your way? What happens when the new one won't fit in the spot or when the old unit won't drain? What happens when the unit won't drain and you're on the second floor of a customer's house? What happens when there's no nearby floor drain to drain to?

Any service plumber will tell you that these scenarios are all too familiar. An easy job turns into a fistfight. Here are some tips to make your workday easier.

WATER HEATER WON'T DRAIN

Before you hook your garden hose up to the drain valve, first try to open the drain valve and see if you get a decent flow of water coming out of the unit.

If you get very little water coming out, first make sure you are breaking the vacuum by opening some hot water faucets upstairs and see if that helps. If it doesn't help, use a coat hanger and try to stab it up into the drain valve a few times attempting to move the calcium buildup enough to get proper flow.

If the coat hanger trick isn't working, it's time to get some more serious tools. Keep a rig on your van that allows you to hook up an air compressor to a washing machine hose with a ball valve between the air compressor and the washing machine hose. You don't need a giant compressor; any small compressor will do.

Let the compressor build up pressure with your ball valve in the closed position. Hook the garden hose up to the drain valve of the water heater. Make sure you have a hot water spigot on and blast a shot of compressed air into the drain valve to forcefully blow the calcium buildup further into the water heater, allowing the water a free path of exit.

If the air compressor trick doesn't work, you can try hooking

up a transfer pump to the drain valve. Sometimes a transfer pump has enough power to pull the debris that is lodged near the drain valve out of the water heater and establish flow. However, sometimes the debris may clog your pump, which is an expensive loss to your tool arsenal.

If none of the above work, there is one final reliable method of removal. This method requires you to keep a tool on your van that will be used to suck the water out of the water heater through the top using a field-made dip tube and a transfer pump. Keep a rig of 3/8inch PEX tubing approximately 10 feet long and connect this PEX tubing to a washing machine hose. Connect the washing machine hose to your transfer pump. Remove the hot and cold piping from the top of the water heater and slide the PEX tubing down through the hot side outlet. Turn the pump on and pump the water out of the water heater through the top. Works every time.

INSTALLING A WATER HEATER PAN

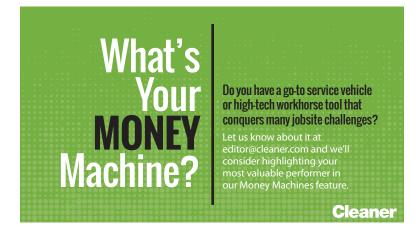
If you ever must install a water heater pan under a water heater there are a few tricks you can employ to get the job done faster. Pans can be annoying to place, especially if the water heater is old and couldn't be fully drained.

You can keep a set of those furniture mover lifting straps on your van. Place them around the water heater and follow proper lifting techniques to pick the water heater up, kicking the pan under the unit and gently placing it back down. Most times you can do this by yourself because of the leverage of the lifting straps, but it is always better to have a helper for both the lifting as well as the pan placement.

NEW WATER HEATER WON'T FIT

Since the passing of the NAECA water heater standards, replacing tank-type water heaters has become more difficult. The new standard of adding 3 inches of insulation to both the top and around water heaters has made some replacements in tight spaces impossible.





While you can always upsell the customer on a tankless water heater in a situation like this, there needs to be an option on the table for customers who don't want to spend that kind of money or don't want a tankless water heater. c

ABOUT THE AUTHOR

Anthony Pacilla is a registered master plumber for McVehil Plumbing in Washington, Pennsylvania. He has over two decades of experience in the plumbing and HVAC trades, and has a bachelor's in business and economics from Thiel College.



MACHINES

LET THERE BE LIGHT

Pipe lining system's UV curing helps California contractor achieve better productivity and increased profits // By Ken Wysocky

HRIS REYNOLDS IS A big believer in reinvesting profits into cutting-edge equipment that can improve both his business and better serve the company's customers.

So when he first heard about the LightRay LRI pipe lining system from Perma-Liner Industries (part of the Waterline Renewal Technologies family of companies), he says he immediately was all in.

"We were the third to buy the system," says Reynolds, who co-owns Hall's Plumbing in Woodland, California, with his wife, Jennifer. "I was super excited about it."

And with good reason. Reynolds says this system, along with other pipe lining technologies, helped him grow the business from 11 employees when the couple bought the company in 2016 to 33 people today. Hall's Plumbing also runs 27 service vehicles.

HALL'S PLUMBING WOODLAND, CALIFORNIA Chris and Jennifer Reynolds LightRay LRI UV LED-light pipe lining system from Perma-Liner Industries **FUNCTION** Lining 3-, 4- and 6-inch-diameter pipelines Fiberglass liners wetted-out in advance with non-thermal FEATURES resins; liners can be stored for up to nine months, no refrigeration required; lines up to 150 feet of pipe; 50-foot-long light train with UV LED bulbs that activate the resins; cures up to 6.3 feet of liner per minute; liner and light train can navigate multiple 90-degree bends; liner can cure underwater. **COST** About \$92,000 www.hallsplumbing.net WEBSITE

The LightRay LRI system, designed to line 3-, 4- and 6-inchdiameter pipelines, ticks off a lot of boxes that are priorities for Reynolds — greater productivity, less downtime for customers, access to new markets, reduction of labor requirements and costs per project, and increased profitability.

In fact, Reynolds says the LightRay LRI technology helped the company land a \$1.4 million contract to line 155 10- to 15-footlong clay pipe sewer laterals in a trailer park, plus another 8,000 feet of 6- to 8-inch clay mainline sewers.

Reynolds says the LRI system also helped him win a lucrative maintenance contract to handle sewer issues for a national chain of dialysis centers with nearly 90 facilities.

INNOVATIVE TECHNOLOGY

A 50-foot-long "light train" that features a double strand of UV LED lights sets the LightRay technology apart from competitors. The system can "cast" — or cure — up to 150 feet of pipe at a rate of 6.3 feet per minute — no heat or ambient curing needed. The liner and light train can navigate multiple 90-degree bends.

Moreover, the fiberglass liner comes already wetted-out with a non-thermal resin that's temperature-stable and can be stored for up to nine months with no refrigeration required. That eliminates the time-consuming and tedious chore of mixing resins on site, then wetting-out a liner. It also minimizes the amount of equipment needed on job sites, Reynolds says.

In addition, only the light train can activate the casting process, so it only starts to cast when a contractor is ready to roll, regardless of the temperature, humidity or other factors. That produces more consistent cure times on all jobs, which makes scheduling projects easier, Reynolds notes.

"This technology reduces the cast time from up to several hours to just minutes," says Reynolds. "It also saves us a substantial amount of labor and provides a wonderful service for our customers, especially our time-sensitive commercial customers. Instead of, say, a convalescent home or a factory

>> Chris Reynolds uses LightRay technology to cure an 80-foot section of pipe liner in a 4-inch-diameter, cast iron sewer pipe located under a kitchen at a convalescent home. The entire project required lining about 400 feet of failed sewer lines, and Reynolds says the technology enabled his company to finish the job in seven days.

going without sewer service for hours, we can reconnect their sewer lines in less than 60 minutes. We can cast (cure) a liner in 10 to 20 minutes, and we no longer have to work during the night on commercial jobs."

To prep laterals for lining, the company relies on robotic descaling/cutting machines from Picote Solutions, IMS Robotics, Boldan, Schwalm Robotic and Dancutter. For line reinstatements, the company invested in equipment from Hurricane Reinstatement Solutions.

WORK FASTER. LESS LABOR

The LightRay technology also significantly improves productivity and reduces labor.

"We make more money because we can do more jobs per day," Reynolds says.

The company can better compete on project bids because the LRI system requires only two technicians and sometimes an assistant instead of a four-person crew.

"Labor is the largest piece of overhead on a job," Reynolds says. "But this technology cuts our man-hours by 40 to 50% to around 20 to 24 man-hours for a typical lining job. For example, we'll be able to shoot up to four laterals per day per crew on that trailer park job, instead of maybe just one or two per crew."

The system is relatively easy to use, too.

"It's not any more difficult than traditional cured-in-place lining," he says. "It's almost exactly like using an ambient-curing system, just much faster. It's super simple — you shoot in the liner, insert the light train, press a button and watch it glow for 10 minutes or so until it shuts off automatically. It can even cure that fast underwater."

GREAT ROI

Of course, all those advantages come at a price — about \$92,000 for the LRI system. Reynolds also invested in the LightRay LR3 system, designed to perform point lining repairs in 3- to 6-inchdiameter pipelines. It cost roughly another \$30,000.

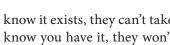
But the two lining systems offer a great return on investment, Reynolds says.

"The LRI paid for itself in about seven to eight months," he says. "As long as you're busy shooting liners, you can pay off this equipment quickly. You have to get familiar with it and then



"IT'S ALMOST EXACTLY LIKE USING AN AMBIENT-CURING SYSTEM. JUST MUCH FASTER.'

CHRIS REYNOLDS



create a market for it. If people don't know it exists, they can't take advantage of it. And if people don't know you have it, they won't call you. The key is getting the word out."

So does Reynolds believe the LightRay technology has lived up to its billing?

"No doubt about it," he says. "No piece of equipment checks off every box. But when you combine the LRI and the LR3, you check off a majority of them. This technology has opened up a whole other realm of possibilities. The ability to do jobs so much quicker differentiates us in the market from our competitors. And it enables us to do specialty jobs other people in our area can't do."



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THE GEAR

SIMPLY THE BEST

Trenchless Supply Inc. aims to be a one-stop shop for contractors' trenchless technology equipment and training needs // By Kyle Rogers

S CEO OF TRENCHLESS SUPPLY INC., John Sanzone has a simple goal: Provide customers with the best trenchless technology equipment and training on the market.

Sanzone's experience with such solutions began when he launched the drain division of his father's plumbing company in Harbor City, California. He quickly tired of performing excavation work in order to complete repairs and started diving into more research on trenchless alternatives like pipe lining. That eventually led to the formation of Trenchless Supply Inc.

Cleaner recently spoke with Sanzone about the company's equipment and training offerings, as well as what he sees in store for the company and the industry in the future.

CLEANER: Tell us a little about the history of Trenchless Supply Inc.

Sanzone: Trenchless Supply Inc. was started in January of 2021. I really wanted to focus on training and consulting. Helping contractors be successful was my No. 1 goal. For example, there are cities around us that have outlawed lining. This is due to installers who don't have knowledge or training.

You would have these situations where someone would overshoot into the city and they would leave the material there, or they would collapse a liner and people wouldn't know what to do. After that, the city just outlawed it entirely. Lining and spray lining can be great tools with a properly trained installer who can address potential issues. What I wanted to do was focus on this and become service- and training-forward. This was the main driving force behind me starting Trenchless Supply Inc.

CLEANER: What differentiates your pipe lining equipment from the competition?

Sanzone: There are a lot of companies that have opened up lately that are selling pipe lining equipment, and a lot of them sell the same things. Maybe it's because it's a big brand, or it's a popular item to sell. We decided to go an entirely different direction. I wanted to focus on: What is the relationship that I have with this manufacturer? What is the quality like? How much control do I have with these partner companies?

If I see changes that need to be made, and my customers see things that need to change, I want that to happen. Some of these other companies aren't willing to work with you on that level, and we really wanted to better the industry and better our customers in any way possible. Going with a



○ One of Trenchless Supply Inc.'s most popular items is its SprayPóxy system, a portable unit that can produce a cure in 45

"popular" brand isn't always the best way to achieve this.

CLEANER: What sort of needs do they address? Tell us about your best sellers and what applications they best serve.

Sanzone: There's a lot of equipment out on the market currently. One of our most popular items would be the SprayPoxy system. It's portable, lightweight, can be easily transported, and you aren't wasting material in the process. That's a huge benefit compared to some of our competitors' products where you may find yourself wasting more materials, taking longer times to dry, etc.

Our system is able to cure in 45 minutes. You're using an epoxy — not a polyurea — so there's still adhesion. The waste is a big factor during this process. Imagine doing a 65-foot line and you have to throw away your hoses every single time. That's a big deal. That's

>>> Trenchless Supply Inc. plans on heavily focusing on its training offerings in 2023.





a lot of epoxy you're throwing away every single coat. Our system allows you to wash the spray head and static mixer, and you can cap your hoses to achieve virtually zero waste.

"THE BIGGEST THING TO KEEP IN MIND WHEN YOU'RE LOOKING FOR PRODUCTS AND EQUIPMENT — ESPECIALLY IF YOU'RE NEW TO THE INDUSTRY — IS BUILD A RELATIONSHIP WITH THE COMPANY THAT YOU PLAN TO BUY FROM."

JOHN SANZONE

CLEANER: What are some recommendations for customers shopping for pipe lining/rehab equipment?

Sanzone: The biggest thing to keep in mind when you're looking for products and equipment — especially if you're new to the industry — is build a relationship with the company that you plan to buy from.

If you start buying one-offs here and there, you don't have a relationship with any one person. If you have a good relationship with a company and they treat you well, you're more likely to be better taken care of. You're also going to be able to probably get some sort of status with that company, and it will help you in the long run.

Do your homework: How knowledgeable is the staff? Are they just salespeople or have they actually been in the field? There are a lot of great companies out there, and I would like to say that we're one of them. If you have a great relationship, that is awesome. That's the No. 1 step I would say to make. The second step is, depending on the product that you're purchasing, how well does that company do with that product? Is it a secondary or third level product for them that they offer just to make some extra sales? Or is it something they push, promote and train on? That's huge. For example, someone could have a great descaling machine, but when it comes to lining they have no knowledge. You probably shouldn't be buying those kinds of products from them.

CLEANER: Tell us a little about your training program.

Sanzone: We want to implement a multi-level training that incorporates real-life scenarios. This will allow you to retain more knowledge and understand more. Stay tuned in 2023. We will be launching a program with our premier trainer, Tuomas Möttönen from Boldan Pipe Technologies. So that is something to look forward to.

CLEANER: How do you see the pipe lining industry evolving?

Sanzone: I see the pipe lining industry vastly changing. You take this system and now you're adding science and tech behind it. It's really cool to see everything come together. Where people used to only cure by ambient temps, now you can eliminate working time and cure by UV light.

What people will see as UV comes more into play, there will be different nano waves and things that you have to take to labs to see what your resin cures at best. Even in some of our units, they have Wi-Fi apps to record to. You didn't have that years ago. I am excited to see where the industry goes in the next 10 years.

CLEANER: What's new for Trenchless Supply Inc. in the next year? What can customers expect in the future?

Sanzone: We have a lot of new things coming. We are always moving to that next level and thinking about how we can innovate and stay ahead of the curve. One of the things that will set us apart



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THE GEAR

is our comprehensive training program that we will be unveiling. We will also have a community for our installers, where they can communicate with one another. Our products will be more readily available across the map. West Coast, East Coast and Midwest markets will be able to benefit from having our product available in a timely manner.

CLEANER: What do you want your customers to think of when they hear the name Trenchless Supply Inc.?

Sanzone: When our customers hear the name Trenchless Supply Inc., I want them to think quality. Quality first. We didn't skip any steps when launching these products to our customers.

I also want them to think service. I specifically took people that were not from the industry because I didn't necessarily care about anything else except service. I wanted my customers to know that they're taken care of whether it's day or night or the weekends. That's service. For us to pay someone extra to come in on a Saturday, that's worth it to us. c





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PRODUCT FOCUS



BUSINESS DIVERSIFICATION -SEPTIC PUMPING, PLUMBING

By Craig Mandli

>> CABLE DRAIN CLEANING MACHINES

1 // DURACABLE DM30

The DM30 drain cleaning machine from Duracable is versatile enough to handle most jobs. Easily swap between 19- and 21-inch reels, and go from an enclosed polyethylene drum to an openspoke metal reel in minutes. This durable machine provides flexibility with cable diameter and length — 1/2- or 5/8-inch is recommended. Machine packages come with 100 feet of DuraFlex 5/8-inch hollow-core cable. They can be used in 2- to 6-inch lines for residential work, floor drains, roof vents and light commercial jobs. 800-247-4081; www.duracable.com



The Model C dual-cable sectional drain cleaner from Electric Eel runs up to 200 feet of 1 1/4-inch, self-feeding dual cable in 8- or 10-foot sections that require no handling when rotating. It spins cable at twice the revolutions per minute of a continuous cable machine for cleaning 3to 10-inch lines for distances up to 200 feet. One-person operation means less time and labor expense. A heavy-duty, 1/2 hp motor comes standard, and 3/4 and 1 hp motors are also available. A custom-designed gearbox ensures higher quality, lower cost and parts availability. The heavy-duty, fully adjustable safety clutch keeps cable and tool breakage to a minimum and provides overload protection. A fold-down handle allows for easy transportation, storage and use in crawl spaces. Its carry handle allows for balance and easy transport. 800-833-1212; www.electriceel.com

3 // GORLITZ SEWER & DRAIN MODEL GO 68HD

The Model GO 68HD heavy-duty electric drain cleaning machine from Gorlitz Sewer & Drain is available in two different versions, either with an open steel reel or enclosed polyethylene drum, and it can be outfitted with an optional power feeder. Standard configuration is 150 feet of 11/16-inch hollow-core cable, which should reach most blockages with a single reel. Overall weight of this machine is 185 pounds. Adding a loading ramp and electric winch to any vehicle makes transportation quick and simple. It is designed to clean pipes from 3 to 8 inches in diameter. 877-446-7548; www.gorlitz.com

4 // MILWAUKEE TOOL M18 DRUM MACHINE

The M18 Drum Machine for 3/8- to 1/2-inch cable from Milwaukee Tool provides the ability to tackle tough clogs such as grease, scale and buildup. This machine delivers up to 40% more torque at max capacity than corded machines in 1 1/2- to 4-inch drainlines and can clear up to 100 feet with 3/8-inch cable and up to 75 feet with 1/2-inch cable. Clearing clogs in sinks, bathtubs and floor drains, its cordless convenience allows users the ability to power their machine anywhere without the hassles and trip hazards of extension cords. The tool features a user-driven, lightweight design with an enclosed drum for protection against the mess during transportation on and off the job. It is compatible with the CABLE DRIVE Assembly, which gives users the capability to automatically feed and retract cable up to 15 to 20 feet per minute. Additional cables are available. 800-729-3878; www.milwaukeetool.com













5 // MYTANA M224 HIGH-SPEED FLEXIBLE SHAFT CLEANER

The M224 High-Speed Flexible Shaft Cleaner from MyTana quickly powers through blockages in 2- to 4-inch lines. It has a robust internal drive so the user can have two-handed control of the cable. They can completely focus on the resistance coming from the blockage while starting or stopping the machine with the foot pedal. The SmartDrive electronic controller autoadjusts the torque limit to the obstruction in the line. The flexible shaft cable is 75 feet long and has a slip-joint fitting so it can accept a variety of attachments. Users can quickly change sizes of cutting blades or attach specialized tools like the one-piece chain-knocker sets. A universal whip lets them add a tool of their choice. Transporting the unit is easy thanks to a luggage-style handle that telescopes to 43 inches, easy tilt and wide-stance wheels. The quiet unit is powered by standard household current. 800-328-8170; www.mytana.com

6 // SPARTAN TOOL MODEL 1065

The Model 1065 is Spartan Tool's original professional-grade cable machine. It offers a 250-foot range to clean pipe from 3 to 10 inches in diameter. The Dial-A-Cable power feed allows for quick cable changes and feeds cable in and out easily, while the blockage-sensing smart motor senses the need for more power when encountering a difficult blockage. A fully enclosed drum helps keep customers' living areas clean, and the unit has a rugged design for tough jobs. 800-435-3866; www.spartantool.com

>> FRANCHISE SYSTEMS

ROOTERMAN FRANCHISE SYSTEM

The Rooterman franchise system offers a low-cost solution to franchise ownership, with a flat-rate pricing system (no royalty on percentage of sales). Franchisees are granted an exclusive franchise license for their chosen territories, and they become part of a team of independent dealers working together under a nationally branded website and recognized trademark with proven systems for success. It has been named the top plumbing franchise by Entrepreneur magazine 15 years in a row. Franchisees receive equity in the national brand by receiving exclusive use of the trademark in their territory. 800-700-8062; www.rooterman.com

Z PLUMBERZ

Z PLUMBERZ is a full-service plumbing franchise specializing in all types of plumbing, drain and sewer solutions. The franchise model focuses on sustainable growth and profitability, with paths designed for those starting brand-new plumbing businesses, as well as for existing plumbing or drain contractors. Owners develop their businesses in four key verticals, including retail plumbing, drain and sewer cleaning, project plumbing and pipe lining and trenchless technologies. Franchise owners are provided with the training, resources and support needed to win more jobs, provide exceptional customer service and become their market's go-to expert. 866-625-1323; www.zplumberzfranchise.com

PRODUCT FOCUS

ZOOM DRAIN FRANCHISE

Zoom Drain Franchise pulls from a larger pool of willing and capable people because it doesn't need skilled techs. Its "green" apprentices practice in training centers, on trucks and in the field with techs, using comprehensive digital manuals as the training curriculum. Graduating from apprentice to tech is the first step on a career path. The manuals match the specialized configuration of the trucks. The software, tools, equipment and materials are specifically referenced in the procedures and systematically updated on tablets. 877-855-5100; www.zoomdrain.com

>> PLUMBING PRODUCTS

7 // CHERNE SINGLE-SIZE MUNI-BALL PLUGS

Cherne Single-Size Muni-Ball Plugs work with all types of pipe and offer a threaded aluminum bypass. The full bypass allows both testing and monitoring of pipe systems. Made of durable natural rubber, they seal the roughest of surfaces and can be converted to an air test plug with the use of a conversion kit. Underground Muni-Ball Plugs are ideal for installation and repair of residential or commercial piping systems. 800-843-7584; www.cherneind.com



8 // ENZ USA CAMERA PULL NOZZLE

The Camera Pull Nozzle from Enz USA is a pull and cleaning nozzle all in one. By means of optimized geometry, there are no protruding edges. This allows the camera cable to be pulled even further into the pipe. Due to the loss-proof screw and cover, the nozzle is extremely userfriendly. It can be ordered for cable diameters of 9 to 12 mm. The application range is 3 to 10 inches, and it is available for 3/8- and 1/2-inch hoses. 877-369-8721; www.enz.com

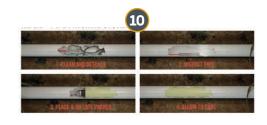
9 // OATEY HERCULES BACTA-LIFE

Hercules Bacta-Life from Oatey is a concentrated powdered product formulated to bacterially repopulate recently pumped septic systems. It is a blend of specialized microbes, potent enzymes, micronutrients and growth accelerators to digest grease, soap scum, starch, proteins, carbohydrates and cellulose/paper. The product disperses quickly on contact with water, and begins to break down deposits and neutralize odors. It contains no acids, caustics or solvents and is safe for use in all areas of wastewater plumbing. It is designed to enhance the natural biology of cesspools, septic tanks and drainage areas, removing heavy buildup in traps, drains, sewers and sump/lift stations when used on a regular basis, according to the maker. Regular use of this product maintains free-flowing drains and sewers and helps keep septic systems at full activity, the company states. It can also be used in commercial grease traps, for sewer and drainline maintenance, and backyard composting. 800-321-9532; www.oatey.com



10 // RIDGID PIPE PATCHING SYSTEM

The RIDGID Pipe Patching System is an all-inclusive, start-to-finish solution for faster and simpler trenchless repairs. The versatile system can perform up to 6-foot fiberglass repairs in 2to 6-inch pipe in straight sections, bends, transitions and P-traps. Easy to add on starter systems include all basic equipment needed to begin pipe patching while patch kits include all required consumables for a single patch. The entire process can be completed in two hours or less, offers a fast return on investment and is easy to learn. Pipe patching is an efficient, durable repair solution that saves time and labor, while also providing minimal disturbance to landscaping and business productivity making it ideal for residential, commercial and industrial markets. 800-474-3443; www.ridgid.com











>>> PUSH TV CAMERA SYSTEMS

11 // CUES MPLUS+ XL

The CUES MPlus+ XL push system is designed for easy operation and flexibility with an all-in-one setup and quick removal of the control unit, which can be used separately. It includes a coiler configuration and pan-and-tilt camera for mainline and larger pipeline applications up to 500 feet. It integrates video observation coding, observation coding interface and digital recording. The lightweight system includes large, durable wheels for portability and a balanced footprint for stability. It is manufactured to handle rigorous field use. 800-327-7791; www.cuesinc.com

12 // ENVIROSIGHT VERISIGHT PRO+

Envirosight's Verisight Pro+ push camera is designed to complete drainpipe and lateral inspections efficiently and accurately. Its self-leveling camera captures up to 90 hours of color footage from pipes 2 inches in diameter and larger, regardless of material. It snakes through multiple bends for maximum range, and an integral tri-band sonde (33 kHz, 512 Hz, 640 Hz) works with most locators. The rugged, welded-steel coiler comes with 130, 200 or 330 feet of pushrod. The entire system runs for six hours off internal rechargeable lithiumion batteries, or off mains or vehicle power. Its controller displays real-time footage on an 8-inch LCD screen and can operate all camera functions, generate custom text overlays with a full QWERTY keyboard, and easily off-load inspection footage by SD card or USB drive. 866-838-3763; www.envirosight.com

13 // FIBERSCOPE.NET BY MEDIT DURASCOPEWIFI

DuraSCOPE WIFI inspection cameras from Fiberscope.net by Medit are known for the durability of the push cable and their ability to withstand repeating cycles of inspections in harsh environments. The new generation of these CCTV systems has an improved Wi-Fi connection that allows connecting a few smartphones/tablets simultaneously, so coworkers can see the live footage from the other side of the street. The camera is fully portable and runs on an 18V Milwaukee battery. No monitor or any other fragile and easy-to-break parts are needed. Just a sturdy, steel frame, premium spiral-wound push cable and a color camera head with 512 Hz sonde. 877-613-2210; www.fiberscope.net

14 // HATHORN INSPECTION CAMERAS H12

The H12 control module from Hathorn Inspection Cameras is equipped with a bright 12.1inch VividHD LCD screen. It is powered by 18-volt Milwaukee (or equivalent) batteries, and available with PipeStream Wi-Fi technology, which allows the user to directly stream the video inspection to up to four devices at the same time (Apple or Android). This system also comes with a full keyboard, eight pages of text overlay, dimmable light control, record/pause to USB, and sonde control. It is usable in any light condition (including direct sunshine), providing HD picture quality, high contrast and 8x digital pan and zoom technology. Command modules are paired with Hathorn Standard reels, which offer nine camera heads (straight view and self-leveling), five different reel sizes, five different rod sizes, and lengths from 100 to 500 feet. 866-428-4676; www.hathorncorp.com

PRODUCT FOCUS

15 // RAPIDVIEW IBAK NORTH AMERICA MICROLITE PUSHROD SYSTEM

The MicroLite Pushrod System from RapidView IBAK North America is a lightweight, small-diameter push system with durable steel-frame construction that delivers a high-quality image for all contractors and plumbers. Fitted with 100 feet of push cable, powerful LED lighting and an auto-uprighting camera, it is designed to inspect pipelines 2 to 4 inches in diameter. The entire system is powered by rechargeable batteries and is equipped with the positionable MicroLite Command Console, which includes a 10-inch touch-screen monitor, full Windows operating system, two USB connections and recording software. 800-656-4225; www.rapidview.com

16 // RATECH ELECTRONICS PLUMBER'S HELPER JR.

The Plumber's Helper Jr. pipe inspection system from Ratech Electronics is based on a small-scale reel and comes with 100 feet of mini Gel Rod cable, a removable compact command module with 7.1-inch LCD, a built-in battery and an SD recorder for digital images and video. This mini pipe inspection system is available with a full-spectrum, 1.375-inch, self-leveling color camera; a standard color camera; or any of the company's three micro camera heads — 5/8-, 3/4- or 1-inch diameter. 905-660-7072; www.ratech-electronics.com

17 // SECON EXTREME SERIES

Extreme Series cordless sewer cameras from SECON come with two 20-volt DeWALT batteries and a charging station. An 18-volt power supply is included for plug-in operation. They have SD card recording and Wi-Fi connection to view inspections in real time on personal smart devices. The unit includes a 7-inch color LCD monitor, 512 Hz sonde/transmitter and a stainless steel camera head. They are available with 100 to 300 feet of push cable and are capable of viewing 1 1/2- to 12-inch pipe. 702-527-5100; www.seconv.com

18 // SUBSITE ELECTRONICS PUSH CAMERA SYSTEM

When a transporter isn't an option because of pipe size or limited access, the Subsite Electronics Push Camera allows operators to complete inspections in the most challenging conditions. Ideal for pipes from 1.5 to 12 inches, it features single conductor technology with a rigid 1/4-inch fiber pushrod covered with a durable Hytrel jacketing that allows operators to inspect up to 500 feet down the line. Additionally, the 1/4-inch-diameter single conductor cable provides added strength without weight concerns, allowing operators to complete significantly longer inspections without the cable getting twisted or warped. The 1545 camera with an in-line 512 Hz beacon allows the operator to easily locate damage and blockage in the pipe. The camera is controlled by a 1575 controller, which features a rugged, durable and reliable enclosure. 800-846-2713; www.subsite.com

19 // USA BORESCOPES PIVS3388

The PIVS3388 modular sewer camera from USA Borescopes allows the user to perform an inspection of a drainpipe, process pipe or sewer line that may be inaccessible to investigate otherwise. It provides a 1.5-inch-diameter camera head that offers not only self-leveling, bright LED lighting but also a built-in transmitter to assist with aboveground locating. The large 10inch screen provides crystal-clear viewing of the inspection area and the full working keyboard makes documenting the findings easy and hassle free. This low-cost portable inspection device is designed to deliver quality video inspections in a wide range of applications, including sewers, sewer pipes, air ducts/piping, wells, process piping and power plants. 931-362-3304; www.usaborescopes.com









20 // VIVAX-METROTECH VCAMMX-2

The vCamMX-2 from Vivax-Metrotech is a portable all-in-one camera to inspect pipes between 1 1/2 and 4 inches. The control module's 8-inch daylight-viewable LCD screen shows the distance of pushrod deployed, as well as the current time and date. Recordings are made in MP4 video and pictures in JPEG format directly to a USB thumb drive, then instantly backed up to an SD card. The internal microphone allows audio commenting over recorded video. The pushrod is traceable with the use of an external locator transmitter and is available in 100 or 150 feet. The 512 Hz frequency sonde is standard equipment. It comes with two interchangeable camera heads. The smaller D18-MX camera is fixed position and 0.70 inch in diameter, and the D26-MX is self-leveling and 1 inch in diameter. 800-446-3392; www.vivax-metrotech.com



>>> TRUCK/TRAILER JETTERS

21 // AMERICAN JETTER 51T SERIES 2650

The 51T Series 2650 trailer jet from American Jetter offers 26 gpm at 5,000 psi. Dual Kohler electronic fuel injection gasoline engines provide consistent power and create 114 hp, saving up to 20% fuel, while avoiding problems associated with carburetor engines. Low water shut-off prevents pump damage if the optional 600- to 800-gallon tanks run low. The main reel holds up to 500 feet of 1/2-inch hose, and speed control allows for precise cleaning in both directions. A longrange wireless remote option allows for water ON/OFF, engine shutdown and hose reel control. The heavy-duty square-tubing trailer offers standard electric brakes on both axles. 866-944-3569; www.americanjetter.com



22 // CAM SPRAY 3012H COMPACT SKID MOUNT JETTER

The 3012H Compact Skid Mount Jetter from Cam Spray is designed to go into a high cube van or pickup bed and take up as little space as possible while still flowing 12 gpm at 3,000 psi. Features include a Honda iGX 800 fuel-injected gasoline engine with oil alert and hour meter, powering a gearbox-driven plunger pump with ceramic plungers, stainless steel valves, pressure gauge and 80mesh water filter. The pump is protected by an unloader valve and secondary pop-off. A power pulse feature is used for navigating longer runs and elbows. The 100-gallon tank includes low water shutoff and a float valve to manage filling the tank. An industrial coated skid platform and frame offers transferability among vans, trucks and trailers, while mounting flanges and D-rings allow for the machine to be fastened or tied down. The machine measures 52 inches long by 41.5 inches wide by 50 inches tall. 800-648-5011; www.camspray.com



23 // GAPVAX G7 JETTER

The G7 Jetter from GapVax is built on a heavy-duty, contractor-grade NATM-certified trailer. Several engine choices, including Cummins diesel, are certified and sized appropriately for the water pump combinations. The unit's hose reel is hydraulically powered with a direct-drive gearbox and variable-speed control. The hose reel offers a 3-foot (curbside) articulation from center of bearing, 180-degree rotation and a capacity of 800 feet of 3/4-inch jetter hose. The polyethylene plastic water tank is available in 300-, 500-, 600- or 700-gallon capacities. The water pump is center-fed for optimum performance. The controller is interlocked with safety features that will show low fuel levels and low water, and is capable of a complete engine shutdown in an emergency. 888-442-7829; www.gapvax.com

PRODUCT FOCUS

24 // HI-VAC O'BRIEN 7000 SERIES

The O'Brien 7000 Series hydro jetter from Hi-Vac is designed and built from the ground up with contractors, industrial site users and municipalities in mind. The toughest lateral lines and challenging culvert cleaning projects are no match it, as flow ranges from 18 to 65 gpm, pressure up to 4,000 psi, and a 700-gallon water capacity mean jobs can be completed the first time without costly job site returns. The 7000-T Series offers the versatility of our 7000 series trailer-mounted units custom mounted to a chassis for all-in-one convenience. It is specifically engineered for professional day-to-day sewer line cleaning. The 2000 Series offers the efficiency and productivity of loading and unloading from the bed of a pickup truck or the back of a van. This skid model is a completely self-contained unit that provides its own power source and water supply. 800-752-2400; www.obrienmfg.com



25 // HOTJET USA HOTJET II

The HotJet USA HotJet II trailer-mounted jetter is available with hydraulic hose reels and a 37 hp Vanguard fuel-injected engine. Operating with hot or cold water, it runs at 12 gpm at 4,000 psi, cleaning 2- to 12-inch lines, making it an alternative between small-output and largeroutput machines. It arrives turnkey with a 330-gallon water tank, detergent tanks and full powerwashing capabilities for cleaning, disinfecting and sanitizing after the job. It includes a hydraulic hose reel, heavy-duty 7,000-pound-rated tandem axle trailer (single axle also available), rear control panel with a remote control, two heavy-duty diamond-plate side toolboxes and one front toolbox. 800-624-8186; www.hotjetusa.com



26 // JETTERS NORTHWEST BRUTE MOUNTABLE SKID JETTERS

Brute Mountable SKID Jetters from Jetters Northwest provide trailer-sized power in a compact skid package mountable in a truck, trailer or van. Available at either 9 gpm/4,000 psi (SKID-4009) or 12 gpm/3,000 psi (SKID-3012), they have the power to run popular root-cutting nozzles. Compact water-tank skids are also available in 55-, 80-, 100-, 150-, 200- or 300-gallon sizes, which easily couple to Brute jetters. Fuel-injected engines provide choke-free electricstarting and work with the optional wireless remote control, which controls jetting on/off and engine on/throttle/off. They come with panel-mounted controls, 300 feet of jetting hose (400 feet is optional) on a 12-volt power reel, adjustable pulsation control, and four jetting nozzles. An optional wheel-kit is available for added portability. 877-901-1936; www.jettersnorthwest.com



27 // VAC-CON VJ SERIES

The VJ Series of jetters from Vac-Con are designed to provide operators with an economical, portable and powerful system in two configurations. The VJ375 offers a 375-gallon water capacity on a single-axle trailer. The VJ750 boasts 750-gallon water capacity on a tandem-axle trailer. Standard features include Tier 4 diesel engine, cold-weather recirculation and air purge system, hydraulically driven hose reel and a reel-mounted, weatherproof electronic control panel. Units are available in multiple water pump pressure and flow configurations. Optional features include gas engine, wireless remote and an antifreeze tank system for cold-weather use. 904-284-4200; www.vac-con.com







>> VACUUM TRUCKS/PUMPS/ACCESSORIES

28 // PIK RITE VACUUM TANK

The Pik Rite steel 3,600-gallon vacuum tank is designed for strength and reliability. Its 3-inch internal plumbing keeps the exterior clean and simple. The vacuum pump mount is attached to both frame rails and easily supports pumps from any major manufacturer. It has four sight eyes for the waste compartment. The tank interior is equipped with walk-through baffles and a 20-inch rear manway for easy clean-out. The LED running light kit is installed with a fully molded wiring harness. Operator work lights and a strobe light are mounted on the top rear lighting bracket. Polished aluminum hose trays and low hose hooks are coated with protective liner. 800-326-9763; www.pikrite.com

29 // VACTOR MFG. H.A.L.O.

The H.A.L.O. hands-free accessory light option from Vactor was designed for safety and efficiency, according to the maker. Explosion-proof, waterproof and hands-free, it is operatororiented and may be used for many applications. It offers up to 14 hours runtime and includes a 50-foot retractable corded reel. It is available on Vactor's 2100i, Water Recycler, 2100i CB, iMPACT and Ramjet Truck Series. 815-672-3171; www.vactor.com c



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// By Craig Mandli

COMPACT JETTER SAVES TIME. TROUBLE AND MONEY

PROBLEM / Craig Casteen of Casteen Plumbing & Repair in North Carolina faced working in a residential crawl space that didn't allow much room to maneuver. He needed a jetting unit compact enough to get into tight areas and powerful enough to dislodge blockages from small lines.

SOLUTION / Casteen chose the JM-1000 Mini-Jet from General Pipe Cleaners. The compact, lightweight, electric-powered unit lets him clear grease, sand and ice from small, 1 1/2- to 3-inch



lines up to 50 feet long. It provides 1,500 psi of cleaning power. Pulse technology helps slide the hose around tight bends and down lines. It breaks the initial tension between the hose surface and pipe walls, increasing cleaning power. The JM-1000 weighs 23 pounds for easy carrying and is convenient for jobs completed by one person. For extensive outside jobs, Casteen uses the larger, more powerful, gaspowered JM-3000 water jet.

RESULT / Casteen used the unit in the crawl space to quickly clear the blockage. "The compact size makes it great for one-man operation. It's perfect for much of the work I do," he says. 800-245-6200; www.drainbrain.com c



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PRODUCT NEWS



PRODUCT SPOTLIGHT

HIGH-POWERED WET/DRY VAC MOUNTS ON **CONSTRUCTION-GRADE WHEELBARROW**

By Craig Mandli

Many drain cleaning jobs require more power than a basic wet/dry vacuum can offer. But the "step up" options for portable vacuum systems capable of maintaining high power while sucking up wet material are limited. Vacuum trucks and trailers provide the power, but not the portability, not to mention the price point to make most contractors comfortable. Even the biggest, most powerful shop vac has its limitations. The RNV Hydrovac 2 from RNV/TRUEBITE, though, offers the best of both worlds.

The RNV Hydrovac 2 is marketed as the industrial hydrovac for those small tough jobs. Simply placing the unit on an approved

6-cubic-foot-capacity steel construction-grade wheelbarrow turns it into a portable hydrovac. Initially developed for the swimming pool maintenance industry, the compact unit is being accepted widely in the plumbing, concrete and construction Industries. It can vacuum down vertically 12 feet, cleaning sludge, sand and small aggregate. It will vacuum 20 gallons of water in less than 12 seconds.

The RNV Hydrovac 2 provides suction so strong that it will implode lesser-quality wheelbarrows. According to RNV/ TRUEBITE, the lowest cost wheelbarrow that will not implode is



the Jackson M6KBUT12 that can be bought reasonably at Home Depot or Lowes. Generally, these wheelbarrows come with only one wheel, so RNV/TRUEBITE also recommends purchasing a two-wheel tire conversion kit available on Amazon.

Every component of the RNV Hydrovac 2 is sourced to provide maximum reliability with the goal of providing the most powerful portable hydrovac system possible. According to the company, 98% of the components used in the unit's construction are sourced from U.S. manufactures. In addition to swimming pool maintenance, it can be used in drain cleaning applications, and the addition of a

high-powered pressure washer essentially turns the package into a portable hydrovac.

The body of the unit is designed for fast cleanup, rinsing off easily with a garden hose. At a total weight of 42 pounds, it is easy for one technician to move. The package includes a 10-foot-long, 2 1/2-inch-diameter hose, two wands, three tools, a filter and a 20-foot power cord. It requires 120V, 15 amp power outlet and will easily run on a 2,200 watt generator or inverter for maximum portability. 800-356-8059; www.rnvac.com

1 // RIDGID RP 115 MINI PRESS TOOL

RIDGID, part of Emerson's professional tools portfolio, recently introduced the RP 115 mini press tool. Designed for residential and lightweight commercial plumbing use, it completes the majority of press connections installed in the market with ease, while getting professionals to their next job faster. The RP 115 can press 1/2-inch to 3/4-inch copper and stainless steel fittings. It is 14.6 inches long, 2 1/2 inches wide and weighs only 5 1/2 pounds with battery and jaws. The RP 115 has a SlimGrip handle and optimized trigger for balance and control; onehanded jaw opening and operation for reach and ease of use; and 210-degree head swivel for access to tight spaces. 800-474-3443; www.ridgid.com





2 // MILWAUKEE TOOL CARRY-ON POWER SUPPLY

Milwaukee Tool expanded its CARRY-ON Power Supply solutions to its M18 System to bring on-demand portable power to any job site. The M18 CARRY-ON 3600W/1800W Power Supply provides 15A power, with less hassle. The push-button delivers an instantaneous start, reaching 3,600 starting watts/1,800 running watts of sine wave energy to power everything from high-demand 15A tools to sensitive electronics. The power supply delivers longer sustained peak power through the most aggressive applications, such as table saws and pipe threading. The supply leverages four M18 batteries to deliver emissions-free power while eliminating the hassles associated with gas. Quiet operation and a compact form allow users to carry the power supply in confined spaces, scissor lifts and utility carts. 800-729-3878; www.milwaukeetool.com c

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INDUSTRY **NEWS**

HammerHead's Kozman appointed to ISO position

Dave Kozman, HammerHead Trenchless senior applications engineer, was appointed in June as a technical expert representing the United States in ISO Technical Committee 138, Subcommittee 8: Rehabilitation of Pipeline Systems. Kozman joins Patrick Vibien, head of



ANSI Technical Advisory Committee to ISO TC138 and technical director of the Plastic Pipe Institute, in representing the United States on ISO topics relating to water supply pipe and drainpipe rehabilitation. The appointment gives the United States a vote in ISO pipe rehabilitation standards again after more than a two-year absence.

NLB relocates Northwest branch facility

NLB Corporation relocated its branch facility in the northwestern United States to better serve customers in Washington, Oregon, Idaho, Montana, Wyoming, Alaska and western Canada. The move from Kent, Washington, to Lakewood, Washington, puts

the branch in the heart of the Tacoma business corridor, easily accessible from the I-5 expressway. As before, the new branch provides sales, service and rentals for NLB's high-pressure water jet pumps and accessories, as well as spare parts and training.

PPI's Municipal Advisory Board document update

The MAB Generic Electrofusion Procedure for Field Joining of 12-Inch and Smaller Polyethylene (PE) Pipe (MAB-01-2022) guide has been updated by the Municipal Advisory Board and is available as a free download from the MAB website. The updates focus on HDPE water piping systems that include new sections on electrofusion, safety and cleaning; the new requirement to use a minimum of 90% isopropyl alcohol; new tables on peel depth and cooling times for couplers and saddle fittings; improved questions in the sample test; emphasis on the use of peelers instead of scrapers in most locations; plus new inspection checklists have been added. c

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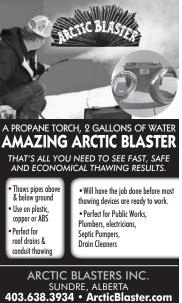
















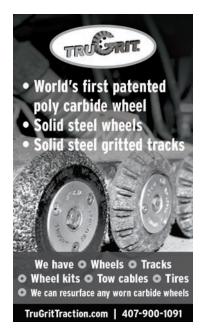




















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