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SEPTEMBER 2018
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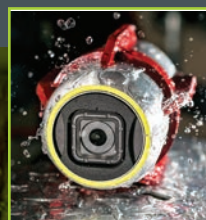
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BY EMPHASIZING WORKMANSHIP,
GOOD EQUIPMENT, AND
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QUALITY
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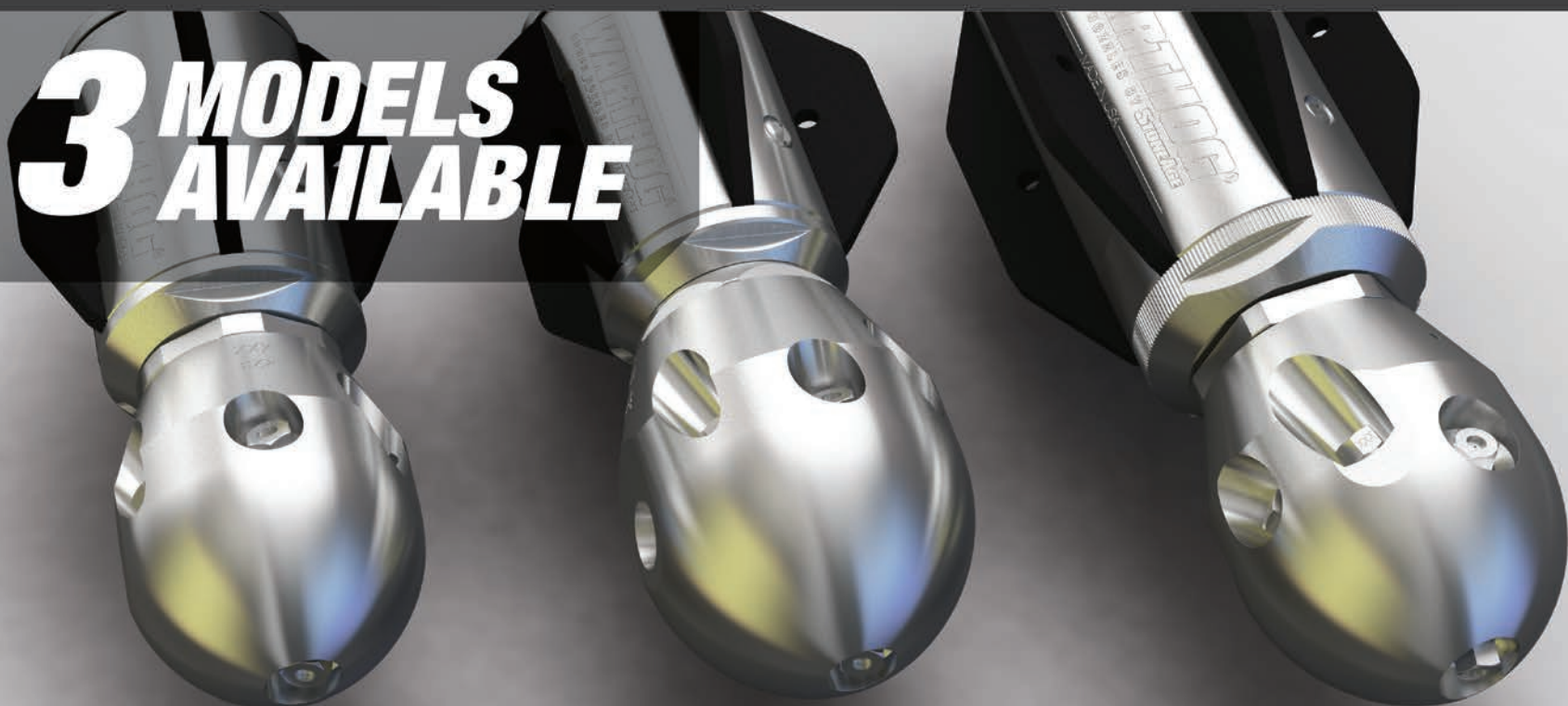
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ON THE COVER

Russell Joe established Quality Sewer & Drain Cleaning in Danvers, Massachusetts, in 2016 after working in a variety of fields. In 2018, he's on track to double his revenue over last year, thanks in large part to quality work and professional service. (Photography by Scott Eisen)

COMING IN OCTOBER

CIPP Lining Methods & Projects

MONEY MACHINES: Steel Eagle surface cleaners mop up

SAFETY FIRST: You'll regret not protecting your hearing

TECH PERSPECTIVE: Drum vs. sectional cleaning machines

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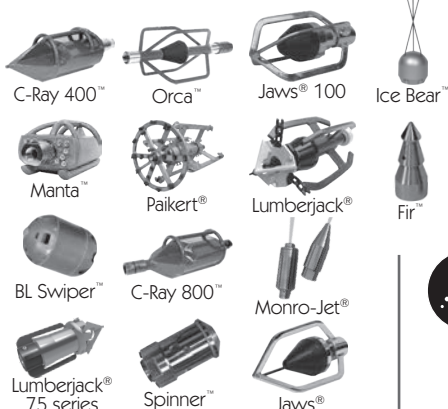
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Play a Bigger Role

When your customers are in need, you become much more than drain cleaners

We all face struggles and challenges. On a good day, you handle your business and move on. But we all have bad days, too.

Say you're stressed out about things at home, you haven't been getting enough sleep, you come into work a few hours late because you had a doctor's appointment that didn't go as well as you'd hoped, and the messages and emails are piled up. You're dealing with plenty on your own, and that's not the easiest time to put on a happy face and take care of your customers.

But that's exactly what you need to do. More often than not, your customers are having bad days when they call you, too. When wastewater is backing up in their basement, the stress is real. Sure, the clogged pipe

can be cleared or fixed, but what about family photos and other personal items that are soaking in that wastewater? You can't fix those. And anyone who's watching the real-time destruction of his or her life's keepsakes is understandably going to be emotional.

So, regardless of what you have going on, when that call comes, you have to be at your best. And that means more than just agreeing to come out later and take a look at the problem. You're a first responder, a shoulder to lean on, a counselor and a contractor. No one is more important in those instances than you.

You're the first person on the scene and the one person who can make your customers feel better in these instances, and that's something you have to take seriously. Just like a doctor, having a good bedside manner, so to speak, can be almost as important as the treatment provided.

There will always be those who view you just as drain cleaners doing the dirty work they don't want to deal with, but they'll feel differently when their own emergency strikes and they need to call you. And if you help them get a handle on the situation and begin the process of getting things back in order, they'll never look at drain cleaners the same way again. They'll probably become lifelong customers, too.

I hope you think of yourselves as more than just drain cleaners. Your role is much bigger than that. Embrace it. Establish relationships with your customers. Let them know they can count on you when it matters.

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



Luke Laggis

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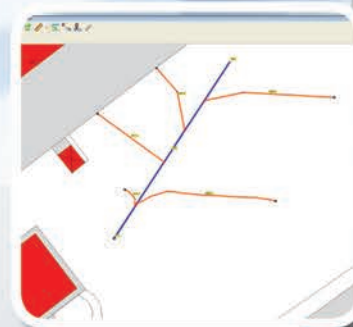
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SAFETY NEWS

Research on CIPP Safety Issues Continues

Check out these two online exclusives to get caught up on the latest with some industry safety news. Researchers at Purdue University followed up a study done last year focused on steam-curing emissions with another study. This time they looked at safety issues surrounding CIPP stormwater culvert repairs. In a related piece of news, and stemming from the Purdue studies, NASSCO named Louisiana Tech University's Trenchless Technology Center as its choice to conduct more detailed research into CIPP emissions and the potential effect on workers and the public. [»cleaner.com/featured](http://cleaner.com/featured)

LEAK DETECTION

Tools That Can Help Your Utility Customers' Water Loss Management

There are a number of different technologies and tools that can aid a utility's water loss management, each with its advantages and limitations. Typically, it's wise to use an array of methods rather than relying on only one. Check out this overview of different leak detection tools available so that you can better serve your utility customers. [»cleaner.com/featured](http://cleaner.com/featured)



"It made jobs go faster with higher margins. Instead of taking more than a day to do a sewer line replacement, we'd finish a job in less than a day."

— Plumbing Contractor Fully Embraces Trenchless Technologies

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A PEEK INTO THE TOOLBOX

One Contractor Lists Her Must-Have Tools

Linda Hudek and her business LH Plumbing Services in Fairfield, Ohio, were featured in the July issue. Every contractor has favorite tools, and in this online exclusive, you can learn more about the tools that Hudek includes on her list. [»cleaner.com/featured](http://cleaner.com/featured)



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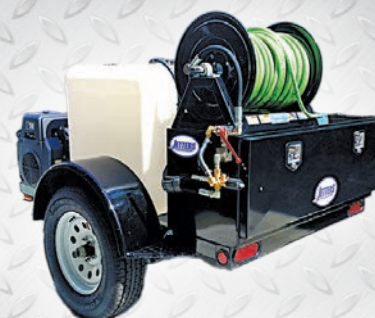
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QUALITY
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By emphasizing workmanship, good equipment, and professionalism,
contractor gains a foothold in competitive market north of Boston

By Ken Wysocky // Photography by Scott Eisen

Russell Joe Jr. knows the value of quality work. He's built his business around it.

"Like it says on my website, customers deserve quality work done right," says Joe, 34, who took a rather circuitous career route before following in the footsteps of his father, Russell Joe Sr., and establishing Quality Sewer & Drain Cleaning, based in Danvers, Massachusetts, in 2016.

Whether it's the equipment he invests in, the work he performs, or the way he presents himself to customers, Joe is all in on the Q-word. It's a trait he learned from his father, who still operates Quality Plumbing and Sewer Cleaning in Niagara Falls, New York, a business that's now 29 years old.

So far, the younger Joe's approach is working: In 2018, he expects to double his gross revenue compared to 2017. Residential work generates about 60 percent of the company's revenue and commercial jobs produce the balance. "I'm blessed that after two years, I'm self-sustaining," he says. "I'm at a point where I can pay my bills, put some money away and still grow the company slowly. I think I'm winning."

Along with the quality ethic, Joe credits much of his success to his father, who passed down endless amounts of knowledge — and continues to do so today. "If not for him, I couldn't do what I do," he says. "And if I have a question, he's always just a phone call away."

ROUNDAABOUT ROUTE

Joe's path to becoming a drain cleaner was anything but straight. Though he grew up in the trade and started working part time for his father at 16, he actually attended a trade school to become an electrician.

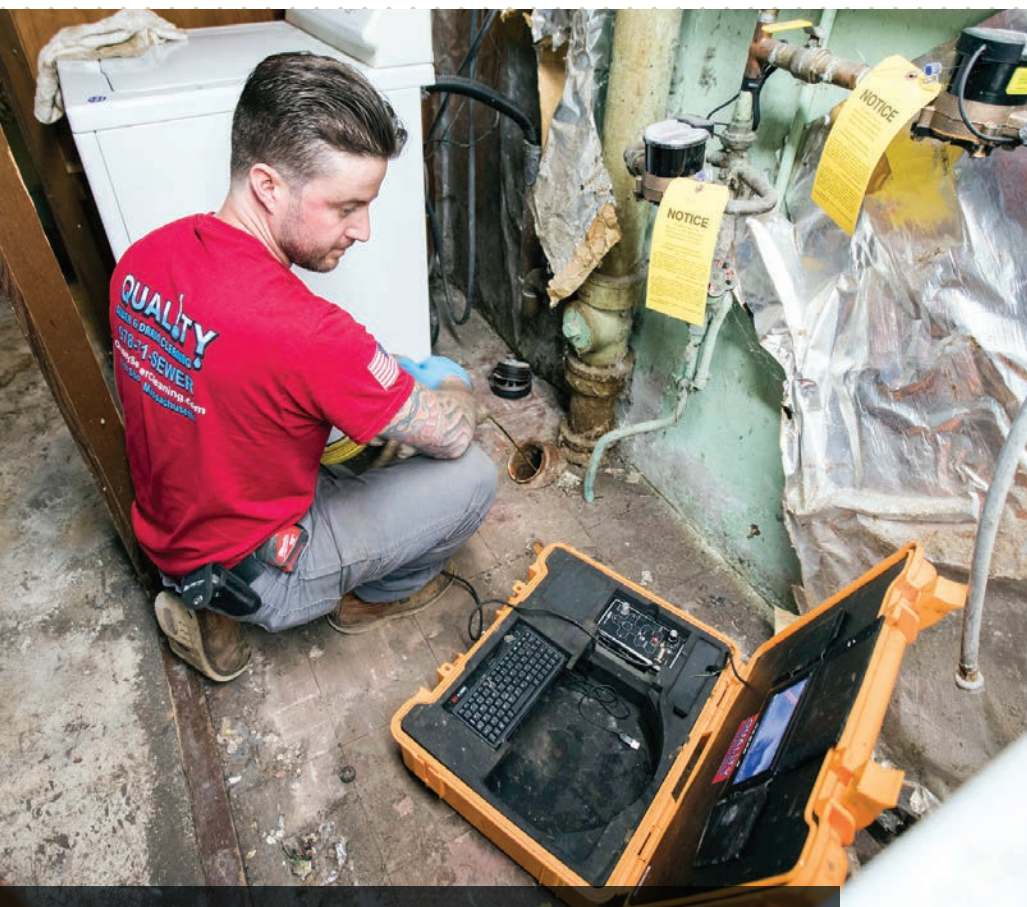
After graduating from trade school in 2002, Joe worked for two years as a commercial/industrial electrician. Then he literally switched tracks and became a railroad conductor for seven years. "I figured that it was better to experiment a little while I was young," he says. After that, he changed direction again and became the general sales manager of a luxury-car dealership in Massachusetts for about three years.

"But as a single dad, I wanted more schedule flexibility and the ability to control my own destiny," he says. "I'd watched my father do it and saw an opportunity in drain cleaning, so I opened up my shop. It's been way more rewarding because you know you're the boss and you know it's your own company. You complete tasks for homeowners who are in dire need, or get a restaurant with a clogged drain up and running again. It makes you feel good.

"Every day it's something different — definitely a challenge," he adds. "Plus, I get to spend more time with my daughter, too."

✓ Russell Joe, owner of Quality Sewer & Drain in Danvers, Massachusetts, uses a RIDGID K-1500 sectional machine to clean a lateral line through the clean-out of a customer's home.





« Russell Joe feeds a camera into a clean-out to locate a root blockage in the lateral line.

✓ Joe loads up his truck and secures his equipment after a drain cleaning job.



“There were many sleepless nights. I was completely new to the area and opening up a company without any contacts. I didn’t know anyone in the industry who could throw me a lead or referral. It was scary.”

Russell Joe Jr.



✓ Joe uses a RIDGID K-50 sectional machine to clean out a clogged sink drain.

Joe’s aha! moment came when a friend had to call a drain cleaner in to fix a sewer problem. Joe watched and was astonished at not only the lack of professionalism, but also the mess the contractor left behind. “And the company didn’t even investigate to see what the cause of the problem was,” he says. “I thought to myself, ‘Wow, you can throw a snake down a drain and not do an inspection and walk away with that kind of money?’ I figured I could do the job 10 times better, so I dove in.”

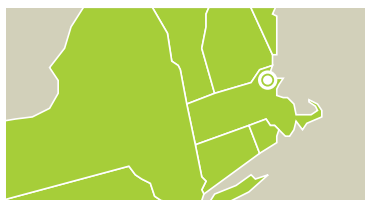
STARTUP STRUGGLES

Any drain cleaning entrepreneur who started out from scratch and endured growing pains can relate to Joe’s early struggles. There was plenty of competition in Danvers, located in what’s known as the North Shore area, north of Boston. But he saw a chance to differentiate his business, based on quality.

After draining most of his savings account with about \$20,000 in startup costs, mostly for essential equipment and a service van, Joe set about on the difficult business of getting the word out and developing a customer base. “There were many sleepless nights,” he recalls. “I was completely new to the area and opening up a company without any contacts. I didn’t know anyone in the industry who could throw me a lead or referral. It was scary.”

But he marketed his company with direct-mail flyers and social media like Facebook and Instagram. He also took the shoe-leather route, knocking on doors as he traveled from business to business, trying to gain a foothold with commercial customers, too. “Before I knew it, the phone started ringing and ringing and word-of-mouth referrals started coming in from customers,” he says. “I also got positive Facebook and Google reviews.”

Like a good marketer, Joe always makes a point of asking customers where they heard about him, so he can tell which promotional platforms are most effective. “If they say they found me through Google, I ask them to give me a good review if they think I did a good job,” he explains. “Google



Quality Sewer & Drain Cleaning

LOCATION: Danvers, Massachusetts

OWNER: Russell Joe Jr.

ESTABLISHED: 2016

EMPLOYEES: 1

SERVICES: Sewer and drain cleaning, inspections

SERVICE AREA: North Boston metro area

WEBSITE: www.qualitysewercleaning.com

reviews are huge. They even helped me get calls from plumbers, and I now do drain cleaning for three companies on a weekly basis and get referral calls from time to time from about a half-dozen other plumbers.”

To Joe, quality takes many forms. But none of it is all that complicated: Answer the phone. If you can’t, call back promptly. Show up neatly dressed, wearing company-logoed apparel. And clean up after yourself.

“Drain cleaning is messy work — no way around it,” he notes. “But you don’t want to show up in jeans, sneakers and a Bud Light T-shirt. And even if you do great work, if you don’t clean up, the last thing a customer will remember is the mess you left.”

RELIABLE EQUIPMENT COUNTS

Operating on a tight budget made buying reliable, profit-enhancing equipment a must. In addition, Joe had to buy functional machines that could handle a wide variety of applications. As such, he invested in two RIDGID drain cleaning machines: a K-1500 sectional drain machine with 100 feet of 1 1/4-inch-diameter cable and a K-50 machine that offers either 25 feet of 5/16-inch-diameter cable as a sectional machine or 60

feet of 5/8-inch-diameter cable as a drum machine.

Joe also relies on a Milwaukee Tool trap snake for unclogging toilets and urinals; a RIDGID NaviTrack Scout locator; and a Wopson pipeline inspection camera made by ShenZhen Wopson Electrical. His service vehicle is a 2012 Chevrolet 2500 Express van.

“The camera has been a huge investment,” he says. “It’s not the fanciest one on the market, but it was the best I could afford and it’s done wonders for me. So has the NaviTrack Scout locator.”

To determine how much to charge customers, Joe says he shopped around and also consulted with a friend who does sewer cleaning. One thing he knew from the start: He would not lowball his rates because it might hamper his ability to pay for the equipment.

“I’m definitely not that kind of guy,” he points out. “I’m very competitively priced. I charge a flat rate, not an hourly rate, except for commercial jobs, where I usually charge a flat rate plus an hourly rate, depending on the job. I’m not the cheapest but not the most expensive, either. My goal is to provide quality work at reasonable rates. That’s my father’s slogan, so I borrowed that from him.”



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SOCIAL NETWORKING

Social media such as Facebook and Instagram has been instrumental to growing the business. Joe uses Instagram, for instance, to help him build relationships with other contractors that can lead to referrals.

“We all post pictures of what we do or maybe what we’ve pulled out of a sewer line,” he says. “I even run small contests where I ask people to make a comment and tag and follow my page, then randomly select a winner from everyone who responds and give them a prize, like a Knipex Tools pliers. Some of it is just fun and silly.”

Instagram also serves as a great digital clearinghouse for contractors to share tips and advice. Joe says he has connections with contractors from Australia to California who share likes and dislikes about camera heads, jetters and the like. “I’ve made amazing friends all over the place,” he says. “It’s not so much marketing, but networking that provides more exposure for possible subcontracting work, not to mention advice. There’s a wealth of knowledge out there.”

As an example, Joe points to a recent job where he arrived to find a clogged 250-foot-long sewer line — much longer than his equipment could handle. But through an Instagram connection, he knew a colleague with a waterjetting machine whom he could call for help. “He came out and helped me after-hours,” he notes. “I never would’ve known him without Instagram. I didn’t make a ton of money on the job because I subcontracted him to do the work, but I got a customer for life.”

CONTINUED >>



>> Russell Joe unloads a RIDGID K-1500 sectional machine to clean a lateral line blocked by tree roots.

Scheduled maintenance is good for business

If given the choice, Russell Joe Jr. — the owner of Quality Sewer & Drain Cleaning in Danvers, Massachusetts — would rather clean a restaurant’s sewer line on a scheduled visit during normal business hours than during an emergency call at 8:30 p.m. on a Saturday, when the business is packed with customers.

That explains in part why he encourages his commercial clients to buy into the concept of regularly scheduled maintenance. In fact, he’s also starting to see more interest from residential customers.

“I have about 30 scheduled-maintenance contracts with restaurants and apartment-complex owners in town,” he says. “It’s better because once you get into a place, you learn where the problem areas are and can address problems faster. It’s not like you’re walking into a hidden surprise.

“Sometimes it’s fun to go in and play detective and figure out a problem, especially if other companies couldn’t,” he adds. “But it’s also nice to know what to expect.”

In addition, scheduled cleanings provide steadier cash flow as opposed to relying on random emergency service calls. Most of the contracts call for quarterly cleanings. Others are just every six months or

once a year, while some restaurants require cleaning every other month.

A soft-sell approach works better than a hard-sell strategy, he notes. He always emphasizes to clients that his recommendation is just that — a recommendation. But it helps to have a video inspection that can bolster his recommendation, and presenting himself professionally helps close a deal.

Joe says there’s another selling point aside from the reduced risk of emergency calls at the worst possible time: Customers always know about the condition of their sewer lines, which enables them to plan for fixing problems before they become bigger and more expensive to resolve.

Joe doesn’t use formal contracts. Instead, he verbally explains to customers how scheduled maintenance works, then writes up the basic terms on a receipt. He doesn’t lock customers in to, say, annual contracts; they’re free to stop the scheduled cleanings any time they want. “But I’ve never had anyone back out of one yet,” he says. “I think formal contracts can turn off customers. I’d rather build a better bond with them, based on trust and quality workmanship, than lock them down and tie them into a specific term. My reputation is everything, and that’s what I’m building.”

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"I'm not the cheapest but not the most expensive, either. My goal is to provide quality work at reasonable rates. **That's my father's slogan, so I borrowed that from him.**"

Russell Joe Jr.

« Joe carries cables from his truck to the basement of a home in Peabody, Mass. before inspecting and cleaning the sewer lateral.

Facebook also helps Joe cost-effectively acquire new customers. A look at his company's Facebook page shows plenty of five-star ratings and "Likes." "Russ is the best!" reads one review. "We have had problems with our kitchen drain for years. After using various vendors, I found Quality Sewer & Drain of Danvers. Russ responded quickly to my call. He showed up with his handy camera and was able to view all the trouble spots. He cleaned out the drain pipe properly and even took the time to put the camera back in to be sure he got everything out. It was a success. Call Russ for your drain and sewer problems; you won't be disappointed!"

Another customer notes, "After trying to unclog my downstairs toilet for four hours and going through two rolls of paper towels, I gave them a call. (Russ) showed up in under an hour and fixed the problem in about 10 minutes. Really nice guy and (he) even cleaned up all the paper towels that I had left all over the bathroom floor. Highly recommend."

BIG AMBITIONS

Looking ahead, Joe definitely sees further growth on his radar, but not so fast that it jeopardizes his ability to provide quality customer service. The company already has grown enough that he's moving from a home-based operation to a 700-square-foot shop with an office in Danvers that offers enough space to store equipment.

In order to become more of a full-service outfit, Joe is also considering buying his own jetter, which would reduce his reliance on subcontractors when larger jobs pop up. "It would be nice to be able to handle everything on my own," he says.

Furthermore, Joe is even considering the purchase of a vacuum truck to offer septic tank pumping service. "I get call after call asking if I pump septic tanks," he says. "There are a lot of little towns north of me where homes still are on septic systems. But we'll see. I want to grow a little at a time — not too fast. If you grow too quickly and invest too much, there's a much bigger chance of failing."

Joe also would eventually like to hire an employee, although he says it may take awhile to find someone who's dedicated enough and shares his goals and business philosophies. In the short term, he's thinking about working with a local technical school to find a good candidate for seasonal summer work that could lead to full-time employment.

In the long run, though, Joe doesn't plan to play small-ball forever. "I'd like to eventually be the biggest and most reputable drain cleaner on the North Shore," he says. "I didn't get into this business to stay in the middle of the road. If I'm going to do it, I want to be the biggest and the best." **C**

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Controlling Cash Flow

Some customers will always pay late, but clear accounts receivable policies will help you avoid going to collections or court

By Neil Feldman

You completed your latest plumbing project on time, sent an invoice to your demanding client, and are eagerly awaiting payment ... and waiting ... and waiting. Does this scenario sound all too familiar?

For any business, every penny counts whether times are good or bad. Probably nowhere is this mindset more prevalent than in the contracting industry, where low profit margins require contractors to protect working capital any way they can. Success, however, often depends on whether you have an effective billing and collection system. Without one, your cash flow can quickly turn sporadic and unpredictable, leading to a siphoning of cash reserves. This can become a slippery slope that leaves a contractor with insufficient working capital and often no recourse other than to seek hard-to-obtain — and increasingly expensive — loans.

Accounts receivable systems, and the cash flow they generate, are the best measurements of a contractor's overall efficiency. At companies where cash flow is not tightly controlled, overall performance tends to be weak.

“Before signing any agreements, contractors should review a potential client’s credit status through reliable report sources.”

Paul Lynch

ESTABLISHING A POLICY

When it comes to protecting cash flow, it's critical for contractors to have a reliable payment collection system. However, even good collection systems are doomed if a client is in poor financial shape or has a history of delaying payments. “Before signing any agreements, contractors should review a potential client's credit status through reliable report sources,” says Paul Lynch, a business and collections attorney in Boston.

“If there are notable flags, it's impor-

tant to take them into account and request deposits or upfront payments or pass on the business altogether.”

Once a potential client has been vetted and proven trustworthy, contractors need to make certain their accounts receivable systems are efficient. Contractors who don't have a collection policy that establishes

actions triggered by specific conditions should develop one. In general, the basics should include establishing when and to whom bills are sent, the type of follow-up to be used, and how collections personnel should respond to payment delays.

“The best way to avoid payment problems is for owners and contractors to decide at the beginning of a project how and when bills will be paid,” says Dean Kaplan, president of The Kaplan Group, a commercial collection agency. “This provides the contractor assurance they will be paid on time and prevents owners from being ambushed by sudden demands.”

Before agreeing to a payment schedule, Kaplan notes, contractors need to remember they will be paying wages, overhead, and material and equipment costs for the duration of the project. “The payment schedule should comfortably cover those expenses,” he says.

It is especially important, collection experts note, that subcontractors and suppliers are paid with revenues from the projects on which they work, not an unrelated project. Job borrowing — paying from funds generated by previous jobs — nearly always signals that the contractor is experiencing major financial problems.

If the contract does not establish exactly when payments must be made, there are diplomatic ways contractors can protect their interest. One of the best steps is for the accounts receivable staff to call the client a week or so after the bill has gone out and inquire as to whether the invoice was received or if the client has any questions. That's courteous and not heavy-handed, and it also eliminates any reason for the client to delay payment because of confusion.

“If there is no agreed-upon repayment schedule and the owner is more than 30 days late, another bill requesting immediate payment should be sent,” says Adrienne Odierna, a business and collections attorney with Lynch, Schwab & Gasparini, a White Plains, New York-based business law firm. “If the check still isn't received within a reasonable period, contacting an attorney or a collection agency is an option, but it should be an absolute last resort. It may get the check delivered quickly, but it also risks severing a relationship.”

Though cutting ties with a habitually late-paying client may not be a major concern, quite often a client that's delinquent on a payment or two may just be going through a short-term rough patch and is not really a bad account.

Collections and credit experts all agree that good communication is an essential ingredient to steering clear of lawyers and collection agencies. If a particular account is having cash flow issues, partial payments and payment plans are options that show good faith, get some money in your hands, and avoid the time, cost, and pain involved in getting lawyers and/or collection agencies involved.

COLLECTION TOOLS

When plumbing contractors are working with general contractors and payments are late despite repeated follow-ups, contacting the owner directly is a viable option. “Contracts with general contractors typically have payment clauses that read ‘paid-when-paid,’ meaning the general contractor is only obligated to release funds once they have been paid by their client,” Lynch says. “But general contractors will sometimes delay payments even after they have been paid, and that violates the contractual terms.”

Lynch says once you have realized the general contractor has indeed been paid, that information can be used to obtain prompt payment. He further notes that if the general contractor still doesn't provide a date to issue the check, sometimes owners will be willing to contact the general contractor on your behalf.

"That almost always releases money immediately since general contractors will not want to jeopardize their relationship with a client," Lynch says.

Commercial projects often have payment bonds or mechanics liens as available tools and can be very useful in collecting payment under certain circumstances.

A payment bond is required on many construction projects and forms a three-way contract between the owner, the contractor, and the surety to make sure that all subcontractors, laborers, and material suppliers will be paid, leaving the project

"If the check still isn't received within a reasonable period, contacting an attorney or a collection agency is an option, but it should be an absolute last resort.

It may get the check delivered quickly, but it also risks severing a relationship."

Adrienne Odierna

lien-free. A mechanics lien is a legal claim that you, as a contractor who worked on a piece of property or provided materials, can file against the title of the property if you remain unpaid for work performed after a certain period of time. Bonds are typically used on public projects whereas liens are more often filed on private projects, though there are exceptions to both.

Odierna advises initially threatening these avenues rather than attempting to invoke them without notice, as they can also lead to a severed relationship in the same manner using collection agencies or filing a lawsuit can.

"Communication is so important with collections," Odierna says. "Having a good, open dialogue can often avoid going down these more invasive avenues." ■

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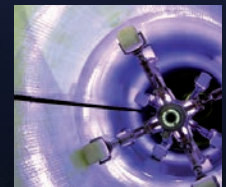


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Inspection Basics for Pre- and Post-Installation

Getting a clear view of the pipe before and after your work ensures a job done right

By Kent Ford

New technology advancements have made cleaning and televising of new and rehabilitated sewer, storm and pressurized pipes safer, more efficient, and cost-effective while providing an added sense of assurance.

Trenchless processes allow for miles of aging pipe to be rehabilitated with less disruption and greater success than ever before, and inspections

have become a critical step in these processes. Of course, this applies to new installations and pipe replacement projects as well.

A thorough pre-inspection of pipes selected for replacement or rehabilitation will identify critical items such as pipe lengths, sizes, precise locations, bends or transitions. This information collected from the inspection is often different from the original drawings where information from past projects was not transferred or precise information was simply not available.

A pre-inspection is extremely valuable to the contractor in terms of exact locations for digging, excavating and cutting. The exact location for these services often have an allowable tolerance of less than 2 inches, and the pre-inspection process helps with planning for the next phase of the project. From this inspection, the contractor and owner can better assess the project and assure that proper materials are ordered. All unknown conditions or design changes are identified during this inspection, allowing any needed adjustments to be made early on in the project timeline.

Once the new pipe or liner is installed, cleaning and inspection can provide the contractor and owner assurance that the pipes are free of any debris that may have been collected during the installation process and that the product was properly installed. It also helps identify any issues that may need to be corrected and provides documentation that the project specifications were met to support project closeout, invoicing, payment and historical records. This attention to detail and collaborative effort between the contractor and the owner helps assure work was completed properly and that any issues with the pipe are addressed quickly and safely.

Combination trucks are ideal for cleaning and debris removal both before and after pipe rehabilitation or replacement of pipes 4 inches in diameter or larger. Large volumes of debris must be removed to allow the inspection equipment to move freely through the pipe.

Wheeled or tracked transporters are the proper tools for inspecting these lines. Pan, tilt and zoom capabilities on a color camera with 360-degree head rotation will record any conditions that need to be addressed. Adding a laser



«A thorough pre-inspection of pipes selected for replacement or rehabilitation will identify critical items such as pipe lengths, sizes, precise locations, bends or transitions.



« A good inspection report should follow NASSCO Pipeline Assessment and Certification Program standards, identifying upstream and downstream manhole numbers, flow direction, manhole depths, pipe size, precise footage and precise location of service lines, as well as any defects.

profiler will provide more precise measurements and the ability to inspect ovality. Inspection reports are typically generated identifying upstream and downstream manhole numbers, flow direction, manhole depths, pipe size, precise footage and precise location of service lines. These inspection reports also call out any found defects and are inspected using NASSCO Pipeline Assessment and Certification Program standards.

The following are a few key questions to address during a routine post-installation cleaning and inspection:

- Was the pipe installed properly?
- Is it the correct type, size and length?
- Are the pipe joints correct?
- Were joint gaskets installed and installed properly?
- Are there any sags in the pipe?
- Were all tie-ins properly installed?
- Is the pipe clean of all debris?
- Is the pipe ready for acceptance by the owner?

The cleaning and inspection process provides early detection of any unknown conditions or design changes and allows for corrections. Project planning and precise details are collected to help keep the project on schedule and provide assurance and visual documentation that the work performed underground was properly completed, meets the project specifications and can be turned over to the owner without concern. **C**

ABOUT THE AUTHOR

Kent Ford is vice president of AIMS Cos., headquartered in Scottsdale, Arizona.

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Erik Gunn

Let Them Pay With Plastic

Choose the right financial service to collect payments safely, efficiently and for the least amount of money

By Erik Gunn

When Sean Dolan switched careers a few years ago and bought Sanitary Pumpers in Eagle River, Alaska, he made one change right away: He began taking credit cards.

"I knew which direction business was going," Dolan says. "Everybody's using credit cards now. That's the majority of our transactions."

And that's why you might want to consider taking credit cards for your business if you don't already: Increasingly, consumers use them or credit card-style debit cards to pay even routine bills.

With plastic you also get your cash that much faster. Properly equipped, you can make it easy for the customer to pay you on the spot and have the funds in your account within a day, instead of waiting for a check to clear.

Of course, all that convenience comes with a price. And accepting credit cards is a big step if all you've ever known is the cash-or-check transaction. But it is probably less complicated than you might think.

GETTING STARTED

Step one is to get a merchant account — the financial service that processes credit card payments and transfers the funds to you. You'll pay the account provider a fee on each transaction, and you'll probably pay other charges as well, starting with a sign-up fee.

Local banks were often the starting point for a merchant account, but they might not be your best option, says Phillip Parker, who operates www.cardpaymentoptions.com, an informational website that compares merchant account providers.

(Parker's business offers its ratings and reviews free to website users. When visitors sign up with a particular provider, the site gets a referral fee. But Parker says he does not let that skew the rating process or the reviews, and he has delisted some providers for bad practices.)

For one thing, he says, even if you get your merchant account through your local bank, it's probably no longer the actual provider.

"Most banks, including huge banks, actually refer that service out to another company," Parker says. "You are typically not dealing with your bank when you are using their merchant services."

That also can mean, no matter how well your personal banker knows your business, you won't be able to count on that with the third-party

merchant account personnel. "You're not actually working with someone super knowledgeable."

Going through your bank is also likely to cost you more than going directly to an account service provider, he says.

SHOP AROUND

The ballpark fee you'll pay every time a customer pays you with a credit card is 3 percent. But those rates, along with other fees, can vary by provider.

"The minimum you should really expect to pay would be about 2 percent," says Parker, who considers 2.5 percent fair. If the fee is over 3 percent, "You're probably getting kind of ripped off."

Transaction fee structures can be complicated and not always clear. There's an industrywide base fee and then other layers the merchant account providers add. The amount of those additional fee segments can depend on things like whether the particular card being processed includes reward points for the cardholder. Merchant account providers aren't always transparent in how their fees are made up, Parker says.

How you process the card can also affect your fee. If the buyer is using a debit card — even one branded as a credit card — and you can process it by having the buyer use a debit-card PIN, merchant fees are lower.

Another factor is how the card information is entered. If it's on a website or by telephone, the transaction fee might be higher than if the physical card is swiped through a reader. "The banks see it as there's less chance for fraud if you're actually swiping their credit card," Parker explains.

There may be monthly or annual fees, too. "In my opinion, you shouldn't have to pay any more than \$15 to \$20 a month in monthly fees, on top of processing fees," Parker says.

One fee Parker says you should always avoid is an expensive rental or purchase price for a credit card reader. You don't have to get the reader through your merchant account provider just because it's offered. Compare the price with readers available on the open market, usually in the neighborhood of \$150, he says, and avoid leasing equipment altogether. And watch out for contracts you can't cancel without paying a huge penalty.

Some merchants impose a surcharge on credit card sales to recapture the transaction fees, but most simply build the cost into their overall pricing.

"I figure if I can get my money from the customer rather than sending a bill out every month for six months, it's worth it," says Bill Hardee, owner of Hardee's Septic Tank Service in North Carolina.

"I figure if I can get my money from the customer rather than sending a bill out every month for six months, it's worth it."

Bill Hardee

PAYPAL AND MORE

You've probably seen more and more businesses swiping cards with a gizmo attached to a smartphone or tablet. Square, a financial services and

mobile payment processing company based in San Francisco, is probably the best-known business for mobile credit card readers, but there are a handful of other options.

The online payment processing company PayPal also processes credit card payments for owners of a PayPal account. PayPal offers a mobile reader of its own, although merchants can run credit card purchases through the service without the reader.

When Dolan set up credit card payments, he went with Square and has been satisfied with the results. Most transactions are done over the phone, but he uses the tablet-connected reader sometimes. He also uses a PayPal account for customers who want an invoice sent to them so that they can pay online.

Hardee's Septic Tank Service has been taking credit cards for more than five years, mainly via PayPal online. About 15 to 20 percent of Hardee's customers pay with plastic.

"When we complete the work, they can get on our website and go through PayPal to pay the amount," Hardee explains, even if they're actually using their credit cards for the transaction.

Because his drivers still use flip phones instead of smartphones — and because of the expense and the delicate nature of regular credit card readers — he's opted not to send machines out on the road.

"Square and PayPal are really the best for new services just starting out who don't have much of a credit card volume yet," Parker says. Their transaction fees tend to be on the higher side, though, he finds. And once your revenue from plastic rises above about \$5,000 a month, "That's when you want to start looking at a more traditional credit card processing company."

RISKY BUSINESS

No form of payment is completely risk-free. Checks can bounce, cash can be counterfeit, and credit card payments — despite all sorts of security provisions — can turn out to be fraudulent.

Parker considers the risk of fraud greater for transactions conducted entirely over the internet, where buyer and seller never meet. With face-to-face deals, scams are less common.

Still, sellers need to guard against them. And when someone pays fraudulently with a card that isn't theirs, the seller must return the funds and lose out on the service or merchandise that was provided in the transaction.

Providers also can impose penalties on merchants who are the victims of fraudulent transactions that result in a chargeback to the account, Parker says. And even legitimate refunds may incur a fee, depending on the merchant account provider.

DO YOUR HOMEWORK

All those risks can be managed by carefully researching your choices for a merchant account provider, examining the fine print, and then considering your customer base.

Ultimately the decision of whether to take credit cards is up to you. But with electronic payments becoming the norm these days, it's at least a decision worth thinking about. **C**

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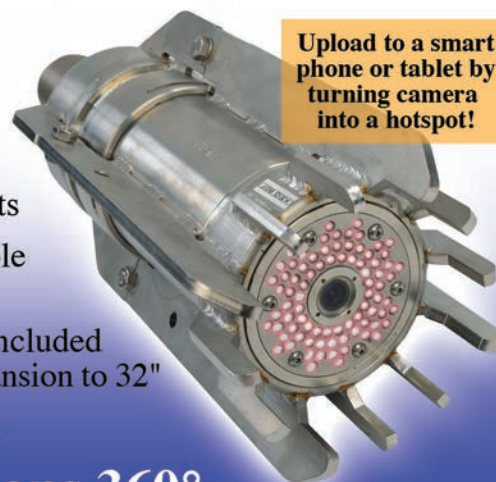
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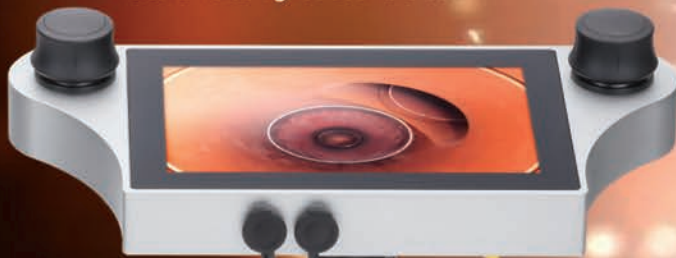
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ARIES INDUSTRIES, INC. 550 Elizabeth St., Waukesha, WI 53186 800-234-7205 • 262-896-7205 www.ariesindustries.com sales@ariesindustries.com See ad on page 77	Pathfinder, Badger, Taurua, Titan, LETS 6.0, Seeker 2.0, Sentinel, Wolverine, Raptor, Anaconda, PipeOlix	2" to 72"	100' to 2000'	Flash Drive/USB Thumb Drive, SD Card	✓	✓	✓	✓	✓
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THE CABLE CENTER, INC. 8318 Olive Blvd., St. Louis, MO 63132 800-257-7209 • 314-993-3099 (f) 314-432-8024 www.thecablecenterinc.com thecablecenter@gmail.com See ads on pages 28, 37	RIDGID, General Wire Spring, Spartan, MyTana	1" to 8"	65' to 400'	Flash Drive/USB Thumb Drive, SD Card, DVD, VHS, Wi-Fi, HDD	✓	✓	✓	✓		✓
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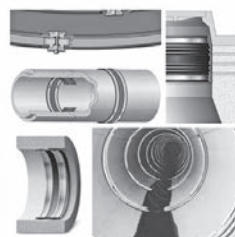
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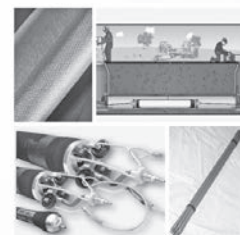
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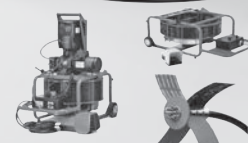
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SELLING Honesty

An ethical approach to specialized service helps
inspection contractor secure market niche

By Jared Raney

Photography by Amy Voigt

Patrick Hooper's inspection business began with a single question: "Who do you call if you want an honest, unbiased pipe evaluation?"

It only took about a month working as an estimator for a pipe cleaning and repair business before Hooper saw that some companies were pushing unnecessary costs onto clients through expensive remediation.

"It dawned on me that they were aggressively pushing the high-end options whenever somebody went out and did an inspection," Hooper says. "I felt like there were a lot of digs and repairs offered that in my opinion probably weren't necessary, or at least they weren't the only option, but the less-expensive options weren't really discussed."

With experience on the consumer end after a sewer backup in his own home, he saw the value of objective assessments — and a gap in the market for that service. With that in mind, Hooper established Mainline Inspection Services, a contracting business focused solely on inspection work in the greater Cincinnati area, with no remediation services of any kind.

SINK OR SWIM

Hooper went all in, maxing out his credit card to buy top-of-the-line camera and inspection equipment. With no jobs on the hook starting out, it was a leap into uncharted territory.

"It was scary — I had a job, I had benefits, and I had insurance; however much I made, I knew I had the benefits," he says. "I had some job security. I go from cashing a weekly check to basically depending on myself, relying on myself. There were no handouts; there was no money there — I had to make it. So that was my motivation."

Though a bold and risky proposition, it wasn't a spur-of-the-moment decision. Hooper stayed on with the repair company for about a year before deciding he had a good grasp on the technical side of the business.

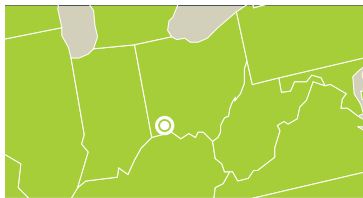
"I looked at it as going to school every day. In all of our meetings and everything, I just paid attention. I absorbed and I learned everything I could possibly learn about the industry — about sewer lines, types of lines, problems, ways to remediate, mitigate — and about a year into it, I decided I was ready to go," Hooper says.

**"I go from cashing a weekly
check to basically depending
on myself, relying on myself.**

**There were no handouts;
there was no money there —
I had to make it.**

So that was my motivation."

Patrick Hooper



Mainline Inspection Services

LOCATION: Cincinnati

OWNERS: Patrick and Erin Hooper

FOUNDED: 2011

EMPLOYEES: 1.5, Erin Hooper helps with marketing efforts and manages the website part time

SPECIALTY: Inspection and evaluation

SERVICE AREA:
Greater Cincinnati tri-state area

WEBSITE:
www.mainlineinspection.com

« Patrick Hooper is the owner of Mainline Inspection Services in Cincinnati.



✔ Patrick Hooper uses a RIDGID locator to trace the path of a sewer lateral below a basement floor.



His first step after buying equipment was simple cold-calling, and he cast a wide net in his initial foray.

"I got on the phone, and I just started calling companies. I started off calling other contractors because many don't have their own cameras and calling home inspectors, Realtors," Hooper says. "I was calling property management companies, construction companies, excavation companies — anybody who would need or want or appreciate somebody doing unbiased evaluations."

DOING A 180

A career in sales preceded his entry into the cleaning industry. Around the 2008 recession, Hooper was laid off from his job at a publishing company, and after a brief stint in the banking industry, he became a full-fledged victim of the economic downturn.

"A lot of the inspections you go on are sort of problem-solving, kind of like detective work, so those are fun. I couldn't imagine going back into an air-conditioned office, wearing a tie and suit, running sales meetings, and being responsible for quotas, sales numbers, and all of that."

Patrick Hooper

Unable to find another job, with twin daughters under 2 years old, he and his wife, Erin, were forced to burn through their retirement savings and take on debt just to stay afloat.

When a sewer backed up at their house, it could have been the straw that broke the camel's back, but it instead turned into a life-altering opportunity.

"They offered to send somebody out with a camera to do a follow-up inspection, and the gentleman who came out was pretty thorough. I was kind of impressed, so I asked him if they were hiring," Hooper says.

With his background in sales, he was hired almost immediately as an estimator.

"It was not an easy transition," Hooper says. "You're used to wearing ties and working in an air-conditioned office. Next thing you know, you're sticking a camera

» Patrick Hooper sets up a RIDGID SeeSnake LT1000 Laptop Interface System to inspect a lateral line from inside a customer's home.

» Hooper gets ready to launch the SeeSnake.





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» Patrick Hooper watches his laptop monitor and makes notes on the inspection.



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down a dirty sewer line, working outside. You're sweating, and you're dirty.

"It was night and day compared to what I used to do. Basically I went from white collar to blue collar, more or less."

At the time, deciding to join the industry was a choice made out of necessity: a "gotta do what you gotta do" moment, Hooper says. Only about a month into working at the plumbing company, he knew business practices wouldn't work for him.

"Our job was to generate revenue. Our job was to sell. That's why they hired a salesman for that job, somebody who had very little background in plumbing excavation. They hired somebody who sold for a living — that's what they wanted," Hooper says. "Not all of them do it; a lot of them don't, but it's a way to get your foot in the door. It was our job to create some sense of urgency and concern and help sell the repair."

GOING SOLO

Launching his own business was hard work, and even though it was work he felt good about, it was a long road.

"After you do it for a while, it gets interesting. You start to learn more about sewer lines, how they work, and different kinds of pipe. A lot of the inspections you go on are sort of problem-solving, kind of like detective work, so those are fun," Hooper says. "I couldn't imagine going back into an air-conditioned office, wearing a tie and suit, running sales meetings, and being responsible for quotas, sales numbers, and all of that. I couldn't imagine going back to it."

Smoothing out the rough spots

Getting to profitability with a steady customer base was a rough road for Mainline Inspection Services of greater Cincinnati, and though he had confidence in the idea behind the company, owner and sole operator Patrick Hooper felt overwhelmed in the beginning.

One of his first jobs flirted with disaster when he couldn't get his new equipment to work. It ended up being an issue of compatibility between his laptop and the video software — solvable, but for a moment while on the job site, Hooper started to panic.

"I thought, 'What have I gotten myself into?'" Hooper says. "It seemed to work OK in my house, but once I got to that job, the software wouldn't work, nothing worked — I couldn't get the video to work.

"I was so embarrassed. Everything was just not working, not functioning. The guy is looking at me like, 'You don't know what you're doing,' and it wasn't because I didn't know what I was doing, it was the equipment that I didn't understand," he says. "During that first inspection, I was like, 'Yeah, this was a mistake. I don't know what I was thinking.'"

But he got through it — then he made it through the next job, and the next, learning all the way.

"If you look at my reports I did when I first started compared to the reports I do now, there's no comparison," Hooper says. "There are a lot of things you learn as you go."



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⚡ Hooper feeds the camera into the clogged line through a basement shower drain.

"I don't even care that plumbing companies out there offer free video inspections because

I have the one thing they don't have: It's objectivity."

Patrick Hooper

Starting the company added another \$15,000 in debt for a full complement of RIDGID equipment, on top of \$20,000 in existing debt, stretching Hooper and his family to the limit. Fortunately, the simplistic business model meant low overhead, and within a few years, business was thriving.

"It's not a brick-and-mortar company, so I work out of my house, at least for now. I'm not paying rent on a facility. Probably the most expensive overhead is fuel, insurance and maintenance on the equipment," Hooper says.

"The first year was extremely tight, and there really wasn't much profit at all. We almost doubled our revenue in the second year, and it continued to grow from there."

Utilizing free online resources like Facebook and networking through trade organizations helped grow revenue by 620 percent from 2011 to 2017. Currently, about 80 percent of his business is in prepurchase inspection, though Hooper hopes to increase homeowner inspections.

"It was a true gamble on a complete unknown: It was either going to work, or we were going to go completely bust," Hooper says. "I don't think I ever had doubt; I always had confidence in the idea. To be able to call somebody for an honest, objective opinion, assessment on the line, it was a no-brainer to me.

"I don't even care that plumbing companies out there offer free video inspections because I have the one thing they don't have: It's objectivity."

NO LOOKING BACK

Within the past year, Hooper paid off the last of his equipment debt and is planning for the future.

"With the debt paid, we can start investing back into the business and begin to think about how we want to grow," Hooper says. "We're kind of going back and forth about how to grow it — I keep coming back to the idea of franchising the business, but I need to get a little bit more growth in this city, in this market, before I do that."

One thing is for sure, Hooper is happy to be on his current path, growing his business and doing things the right way.

"I tell my wife my tag line should be 'we get paid to be honest' because that's our job. Our job is to be honest with people." **c**

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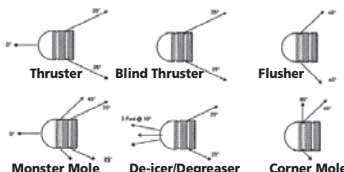
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Getting It Done

For tough industrial cleaning, Guzzler Liquid Ring vac truck brings the brawn – and opens up new markets for South Carolina contractor

By Ken Wysocky

When JRP Co. was founded last year, management set out to establish the business around a vacuum truck that could service a wide range of markets and customers. The solution: A Guzzler Liquid Ring ACE industrial vacuum truck built by Vactor.

From liquid vac work like vacuuming sludge from wastewater ponds to dry vac work such as cleaning out tanks, the Guzzler Liquid Ring checks off several boxes, such as versatility and power. Moreover, the liquid-ring pump technology enables the company to safely clean reactors in polymer plants that would be riskier to clean with a conventional vacuum truck equipped with a blower, says Josh Wood, project manager for the company, based in Enoree, South Carolina.

The unit features an 18-cubic-yard debris tank, two Kaiser liquid-ring pumps (3,640 cfm combined), two 200-gallon water tanks, a 24-foot-long boom, a four-stage filtration system, a rear-mounted sludge pump, and remote-control capability.

The ability to safely serve polymer-manufacturing plant customers was a big factor in the company's decision. "When you mix polymers, some of the raw materials are flammable," Wood explains. "When we clean reactors (processing tanks/systems), there's residual raw materials left, and if you pull those through a hot blower, you run the risk of an explosion.

"When we started the buying process, we more or less played with a few different vac trucks to feel things out before we purchased one because it's

CONTINUED >>



✓ A Guzzler Liquid Ring vacuum truck, owned by JRP Co. of Enoree, South Carolina, vacuums out a silicone mixing tank at a chemical plant in South Carolina.

JRP CO.

LOCATION: Enoree, South Carolina

MACHINE: Guzzler Liquid Ring ACE vacuum truck built by Vactor

FUNCTION: Primarily industrial cleaning (wet and dry vac work) at chemical plants

FEATURES: 18-cubic-yard debris tank, two Kaiser liquid-ring pumps (3,640 cfm combined), two 200-gallon water tanks, 24-foot-long boom, four-stage filtration system, rear-mounted sludge pump, remote control

COST: Around \$440,000



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such a big investment,” he adds. “And we chose the Guzzler Liquid Ring truck because it can do wet and dry vacuuming — just about anything a standard industrial air mover can do, plus the added flexibility of being able to do flammable materials safer than we could with a standard air mover.”

PRODUCTIVITY IMPROVEMENTS

JRP (named after owner James R. Patterson) has seven employees and covers the state of South Carolina. The business also owns a hydro blaster (20,000 psi at 25 gpm) made by Jetstream with a conversion unit (40,000 psi at 12 gpm). The hydro blaster and Guzzler units are used together on some applications, such as cleaning industrial tanks, Wood points out.

The unit’s 24-foot boom is a productivity enhancer. “We rented an air handler once that had a boom, and it totally spoiled us,” Wood notes. “Someone doesn’t have to get up on the tailgate platform to hook up the hose to the rear inlet valve, which is nice because that’s a lot of weight.” In addition, when the company cleans wastewater pits at plants, employees can use the boom without any hose, depending on the depth of the pits. “We just add a couple of tubes to it, if necessary,” he says. “It’s much easier than handling a couple hundred pounds of hose in a deep pit.”

The optional sludge pump also is a productivity game-changer. For example, the company used to clean wastewater ponds at plants and factories by renting a long-reach excavator to dig out sludge, then hiring a hauler to transport the sludge with dump trucks. Furthermore, it required six or seven JRP employees on site. “It was expensive and labor-intensive,” Wood says.

But now the Guzzler sucks out the sludge, which Wood compares to the consistency of oatmeal. Then the operator uses the sludge pump to off-load the sludge on site into dewatering bags. “We’re effectively using the truck as a transfer station,” he explains. After the sludge dries, the bags are taken away for disposal in a landfill — no excavators or dump trucks required.

“It streamlines the whole process,” he points out. “What used to be a six- or seven-man job now is a three-man job. The beauty of that is it frees up labor for us to tackle other jobs. And the jobs (cleaning wastewater pits) are more profitable because we’re not spending a boatload on labor, subbing out trucks and so forth.”

QUIETLY EFFICIENT

The liquid-ring pumps, which require no lubrication and are virtually maintenance- and wear-free, also improve efficiency because they maintain vacuum when submerged. “You can put the hose in a pond all day and it never hiccups — just sink it and forget it,” Woods says. “One basin we clean out a few times a year holds 350,000 gallons and another one holds 1.4 million gallons, so the ability to maintain vacuum power while submerged is a big advantage.”

In addition, the liquid-ring pumps are 10 to 15 dBA quieter than a conventional positive displacement rotary blower. That makes a big difference for employees because they don’t have to shout at each other to communicate; customers also like it because the truck can be used in heavily populated areas without disturbing residents.

Purchased in spring after a successful demonstration that impressed JRP management, the Guzzler cost about \$440,000. So far, it’s been a solid investment, Wood says. “It allows us to bid on jobs we couldn’t otherwise do,” he notes. “It provides us with a big selling point and gives us much more flexibility, so we’re not always stuck in the same market. And it brings down the cost of our projects, which makes us more profitable by a long shot.” **C**

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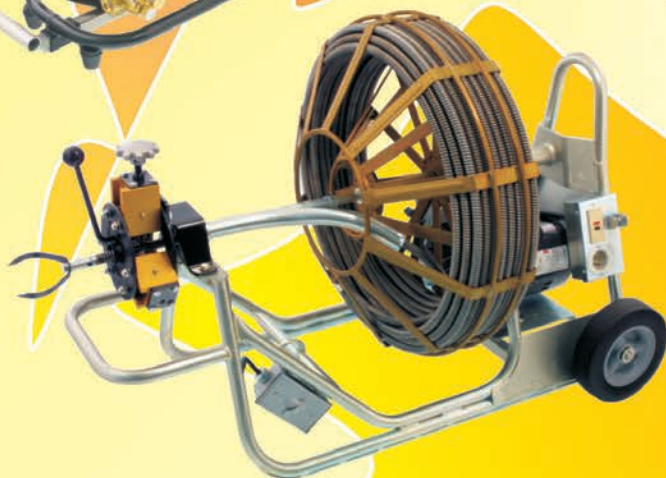
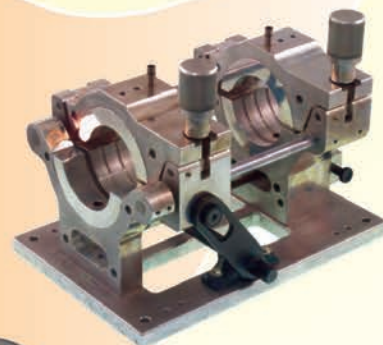
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Safety Is About Convenience

For many operators, safety depends on the accessibility of the proper tools and equipment

By Jared Raney

Whether you have one service vehicle or 100, your operators spend nearly all their time in or around their rigs.

Often, whether or not an operator follows proper safety protocol hangs on how easy it is for them to do so. They perform these job duties every day, and it is easy to become complacent when safety means going out of your way.

That's why it's important to have proper safety gear incorporated into your everyday fleet and to have all crew members properly equipped.

While some aspects of vehicle safety are required under Department of Transportation regulations, many are just good sense.

FOR STARTERS

When it comes to DOT regulations, most important is researching and understanding exactly what is required for your specific service vehicles, as they don't all require the same gear.

For example, larger trucks often require fire extinguishers, and if you are hauling trailers or other equipment, DOT specifies a certain grade of chain for securement.

"That's important for compliance; a lot of companies don't know that your chains have to be rated for all of the various equipment," says Eric Wright, vice president of safety for Northwest Cascade, a multifaceted service company with over 300 service vehicles.

On a more basic level, most service vehicles are required by the DOT to carry reflective triangles or cones in case of roadside maintenance or road accidents. Consider adding flashlights and emergency phones for those incidents as well, especially if operators are driving long distances regularly.

BEST PRACTICE

It's a good idea to stock all vehicles with first-aid kits, which can be as basic as bandages and antiseptics or as comprehensive as including emergency supplies like eyewash.

First-aid kits are a universally applicable feature, which could be expanded depending on the nature of the work. They can be tailored to specific applications, such as adding an eyewash kit for workers around hazardous chemicals.

Bel-Art carries two mobile eyewash products — a larger version that can rinse both eyes simultaneously, in any orientation, and a smaller, 120 mL belt-pouch version.

CONTINUED >>



➤ A safety kit including a vest, hard hat, gloves, safety glasses, regulations and other items is a good idea for all work vehicles. In many cases, it's not just providing the necessary equipment for operators, but making it as convenient as possible for operators to use that equipment. And in case something does go wrong, it's extremely important to have items like a good first-aid kit and an emergency spill kit.



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"It's highly mobile. It's one-time use, but it's sealed, and it has a long expiration date. So they can bring it wherever they need," says Peter Yoo, product manager for SP Scienceware, parent company of Bel-Art. "The solution — it's great, not just for physical dirt or debris, but also different things like acids and alkalis."

Northwest Cascade not only keeps first-aid kits on their vehicles, but also issues a personal first-aid kit to each operator.

The personal first-aid kit is part of a basic personal protective equipment bag that is provided. It also includes safety gear like a hard hat, two pairs of gloves, an orange vest, safety glasses (regular and tinted), headlamp, earplugs, and a safety regulations booklet.

In many cases, it's not just providing the necessary equipment for operators, but also making it as convenient as possible for operators to use that equipment.

Bel-Art offers an eyewear holder for safety glasses or goggles that can be installed in service vehicles. Other shelving units and organizational products across the market could be used for similar easy-access safety items.

WORTH A TRY

Beyond the basics, there are many safety-enhancing additions to consider on your trucks.

Laws against cellphone and mobile device use are becoming more prevalent in states across the country, which makes Bluetooth and hands-free GPS options increasingly helpful.

Northwest Cascade stocks spill kits on their vehicles in case of oil or other hazardous waste spills.

"The spill kit we carry as just a company policy type thing," Wright says. "Same as the first-aid kit."

Needs are different for every operation, but some outfits benefit from going toward the far end of safety precaution, as Northwest Cascade has done with the addition of dashcams.

Their dashcams are integrated into a vehicle monitoring system that also records hard braking, speeding and other driver habits that could affect safety.

"It has parameters that you can set, so it ties in with the vehicle, what's happening with the vehicle, as well as the driver," Wright says.

Backup cameras are fast becoming a standard feature on both service and pickup trucks, but they may be something worth adding to older trucks as well.

Small things can make a difference too, like stickers in the cab and on the mirrors of service trucks — reminders for the busy operator to observe common safety practices.

"On the newer trucks, obviously there are lots of new safety features being incorporated," Wright says. "Our newer trucks actually come with an orange seat belt, so you can tell if the drivers are wearing their seat belt or not."

CAREFUL CONSIDERATION

Safety shouldn't be a throwaway checklist item for any company. That being said, every organization has its own needs, and managers should think carefully about what is best for the operators.

In the end, it depends on the specific jobs that operators will be tackling and frankly the operators themselves. All of these factors need to be considered when assessing safety protocol. The only thing that's a certainty: There is no shortage of options. **C**

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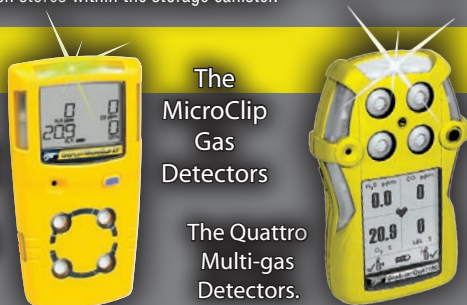
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INSPECTION CAMERAS/ACCESSORIES

1 / CPI PRODUCTS TRAPMASTER ROLLER SKID

The two-piece **CPI Products TrapMaster** centers the push cable, aligning it while the radius of the seam leapers help turn the camera, allowing it to easily navigate the trap. It also centers the camera while protecting it from impacting and grinding against the walls of the pipes. It enables most push cameras to easily go through the trap, allowing the operator to see beyond the trap and know exactly what the problem is, saving time and money while reducing the chance of damaging the camera. 413-443-0925; www.cplproducts.com.

2 / DEEP TREKKER DT340

The **DT340** pipe crawler from **Deep Trekker** is completely self-contained in two carrying cases, requiring no dedicated service truck to operate. It can be deployed from anywhere in under five minutes, and it comes with a lightweight, hand-held control console, a strong but thin tether, a pivoting tether connection, wheel and track options, and plug-and-play integrations all designed to make pipe inspections easier. It is depth-rated to 164 feet and requires no topside power. 855-949-3441; www.deeptrekker.com.

3 / ELECTRIC EEL ECAM PRO 2

The **eCAM Pro 2** mainline pipeline inspection camera system from **Electric Eel** has a stainless steel-housed, 1.68-inch, self-leveling color camera with sapphire lens; 20-LED light ring with an impact-resistant polycarbonate light ring cover; and high-resolution CCD element. The auto-iris adjusts light automatically. A flexible camera spring navigates 3-inch P-traps. The unit comes standard with 200 feet of braided fiberglass premium 1/2-inch-diameter pushrod (with a capacity of 400 feet available on the reel), industry-standard 512 Hz sonde, 10.4-inch daylight-readable monitor with click-touch controls,

and one-touch recording directly to a USB flash drive. It has an on-screen footage counter, a two-hour battery with built-in charger, adjustable light controls, 16 pages of text writing with memory saves, voice-over recording, an eight-times zoom function, audio/video out jacks, 8-inch wheels for easy maneuverability, a secure-locking reel brake, and rugged powder-coated steel tube and bar construction. 800-833-1212; www.electriceel.com.

4 / ENVIROSIGHT QUICKVIEW AIRHD 2.0

The **Quickview airHD 2.0** from **Envirosight** helps avoid confined-space entry by capturing high-definition video from sewers and transmitting it wirelessly to a touch-screen tablet for live viewing. This latest version offers dual-band Wi-Fi for increased connectivity and measurement capabilities. Use an intuitive tablet and custom app for fingertip control of zoom, illumination, and tilt, as well as image capture and video recording, playback, annotation, and sharing. This portable HD zoom camera travels in a compact roller case that easily fits in a pickup bed but extends to 16 feet. And with in-manhole centering capability, as well as motorized tilt on the camera head and hands-free stabilization, setup takes little time. 866-936-8476; www.envirosight.com.

5 / FORBEST PRODUCTS FB215

The **FB215** crawler inspection camera from **Forbest Products** is suitable for 6- to 16-inch pipe and comes with a waterproof crawler with three types of wheels on the six-wheel-drive system and double motors that can turn left or right with the creeping speed of 20 to 66 feet per minute. The waterproof, pan-and-tilt, high-resolution color camera head's focus can be adjusted with the high-brightness LED lights. It carries 500 feet of cable and includes a meter counter and universal wheels with braking function. The heavy-duty, waterproof control box includes a 10-inch LCD color screen with USB and built-in SD card to record photos and videos. 877-369-1199; www.forbestusa.net.



6 / GENERAL PIPE CLEANERS/ GENERAL WIRE SPRING GEN-EYE X-POD

The **Gen-Eye X-POD** from **General Pipe Cleaners/General Wire Spring** offers a command module that includes a USB port to record on a flash drive. The lightweight unit combines camera, reel and monitor into a compact package. It comes with a 7-inch LCD color monitor, USB recording drive, one-touch recording, digital zoom, voice-over recording, date and time stamp, and a flash drive capacity indicator. It includes a 3-foot probe rod with color camera for inspecting hard-to-reach places such as ducts, furnaces or behind walls. The full-size unit includes a self-leveling color camera and 200-foot of Gel-Rod for inspecting 3- to 10-inch drainlines. The compact Mini-Reel carries 100 or 200 feet of Gel-Rod with mini color self-leveling camera for troubleshooting 2- and 3-inch lines. The rugged steel frames and reels include a drag brake and reel lock. The full-size reel sports 10-inch wheels. **800-245-6200; www.drainbrain.com.**

7 / HATHORN MAGNUM M7

The **Magnum M7** from **Hathorn** is packed with multiple features and is extremely lightweight at only 29 pounds. The unit can easily be carried down a flight of stairs or rolled on its 6-inch wheels. The 7.4-inch monitor delivers a clear, bright picture and is covered by an acrylic shield for durability. It offers USB recording, two-hour lithium battery, on-screen footage counter, 512 Hz sonde transmitter, adjustable lighting and text writer. A Wi-Fi transmitter can be added for recording to a mobile device. It comes with a variety of pushrod lengths and camera sizes to fit every job type. **905-604-7040; www.hathorncorp.com.**

8 / PEARPOINT/SPX P342

The **Pearpoint/SPX P342** with the Plumbers add-on is a combination of convenience and performance, giving users the ability to have one system for confined work areas and enabling ease of use in congested work sites. This equipment requires just one universal command module to operate and offers an option of a 1- or 2-inch camera. The 2-inch camera is self-leveling, always keeping the video picture upright when navigating pipes. **800-688-8094; www.pearpoint.com.**

9 / PERMA-LINER INDUSTRIES PERMA-CAM

The **Perma-CAM** from **Perma-Liner Industries** comes complete with a self-leveling color camera head with a sapphire lens and centering skid and a 200-foot, heavy-duty push cable with a standard 512 MHz transmitter, all mounted on a heavy-duty, powder-coated aluminum frame. The 7-inch monitor comes with a weatherproof hand-held holder, complete with a custom sunshade. The HD monitor records to an SD media card and also has voice-over capability. The standard, Wi-Fi-compatible unit comes with a complimentary Samsung tablet. **866-336-2568; www.perma-liner.com.**

10 / PIPEHUNTER RED DAWG SCOUT

The **Red Dawg Scout** jet camera from **PipeHunter** is a simple way for operators to inspect mainline issues, as no extra cables, lights, or gear is required. Operating it is as simple as running any other nozzle. It uses a GoPro camera along with an integrated lighting ring. Operators can equip any jetter with this system to regularly view mainline issues. Operators start recording, send the nozzle up the line and review when it is brought back to the entry point. Footage from this system qualifies for Capacity, Management, Operation & Maintenance requirements. **800-373-1318; www.pipehunter.com.**

11 / RAPIDVIEW IBAK NORTH AMERICA ORPHEUS HD

The **ORPHEUS HD** inspection camera from **RapidView IBAK North America** offers full 1920 x 1080 resolution, providing clean, crisp HD video along with high-resolution pictures. It is ideal for large-diameter pipelines 6 inches and up, and it offers pan-and-tilt capabilities, 10 times optical zoom and 12 times digital zoom, laser measurement, autofocus, and powerful LED lighting. The camera uses lights set into the camera head at an angle that specifically illuminates inside pipe joints and gaps, allowing the user to see clearly without obscuring shadows. With its higher resolution, the user can zoom closer and inspect up into laterals while maintaining high picture quality. **800-656-4225; www.rapidview.com.**



12 / RATECH ELECTRONICS PAN N' TILT PUSH CAMERA

The **Pan n' Tilt** push camera from **Ratech Electronics** can be used for pipes and drains as small as 4 inches in diameter. It can be used as a retrofit to existing systems or as a stand-alone unit. It rotates fully 360 degrees and 210 degrees up and down, allowing users to view the pipe condition easier and in greater detail. An optional, steerable gooseneck can assist. Combining this camera to a control unit such as the Elite SD enables recording capability using SD/USB drives and allows MPEG video capture and JPG image capture of pipe inspections. Also included is a 512 Hz sonde, an on-screen text display overlay system, electronic distance counter, time, date and eight pages of memory. It comes with 200 to 400 feet of Gel Rod cable. **800-461-9200; www.ratech-electronics.com.**

13 / RIDGID SEESNAKE MAX RM200 SERIES

The **RIDGID SeeSnake MAX rM200** Series camera system combines portability with the versatility of the D2 drum series, offering different combinations of push cable stiffness and spring flexibility to tackle any inspection job. It is capable of inspecting lines up to 200 feet in length and 1 1/2 to 8 inches in diameter, depending on drum selection. It comes with a choice of two drums that each feature different push cable lengths, diameters, stiffness and springs for on-the-job flexibility. The drums can also be purchased separately and easily interchanged for maximum job site use. The unit also has an integrated transport system for easy portability and pairs with CS65x or CS6x digital monitors. The monitors are Wi-Fi enabled and can be docked to the MAX rM200 for convenient transport, operation and storage. **800-769-7743; www.ridgid.com.**

14 / SPARTAN TOOL EXPLORER

The **Explorer** modular camera system from **Spartan Tool** has a control box that is compatible with five different pushrods up to 400 feet in length, letting the user quickly adapt to any environment. Included WinCan software allows the user to map full plumbing systems for future reference, and files can be saved to a WinCan account, the cloud, external USB drives, and the system's internal storage. The stainless steel camera head provides a crisp color picture to the super-



bright, sunlight-readable LCD display. Change out reels to create a system that provides the ability to tackle any size job. **800-435-3866; www.spartantool.com.**

15 / TROJAN WORLDWIDE C100-512SL

The **C100-512SL** self-leveling color camera system from **Trojan Worldwide** is a lightweight, easy-to-operate system designed for 1 1/2- to 4-inch lines. It has a 1-inch, self-leveling waterproof color camera head with adjustable LED lights. The 512 Hz sonde transmitter is built into the spring of the camera, which allows more flexibility when maneuvering around sharp turns, and also creates a stronger signal for locating. The system has a 115-foot durable pushrod and a built-in footage counter. The display screen is a 7-inch LCD with DVR, with SD card recording and a built-in microphone for voice recording. The built-in battery offers seven hours of runtime and has an AC adapter for charging or direct power. Also included is the SD card, USB adapter for the SD card, protective visor, two skids and a waterproof case for the entire system to fit in for easy transportation. **800-392-4902; www.trojanworldwide.com.**

16 / TRUGRIT TRACTION WHEELS

TruGrit Traction polymer and carbide-grit camera transporter and cutter wheels are designed to provide maximum pulling power in all pipe types and conditions. This aftermarket traction wheel fits most major CCTV transporter brands. With their ability to grip slick pipe without damaging it, the wheels are especially helpful for lining contractors who don't want to destroy newly installed liner during the post-video inspection process. Thanks to an optimal blend of flexible polymer and carbide grit, the wheels don't get dull, even in clay and concrete pipe. **407-900-1091; www.trugrittraction.com.**

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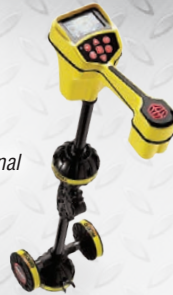


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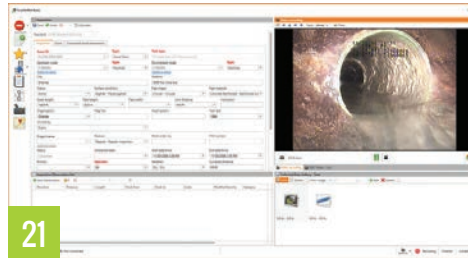
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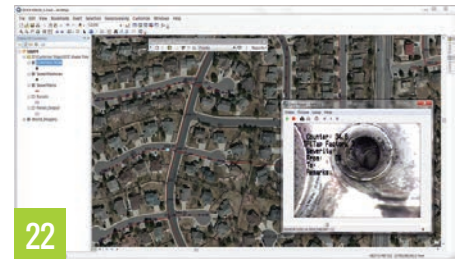
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17 / VIVAX-METROTECH TYPE-CP

The **Type-CP** inspection system from **Vivax-Metrotech** has 200-, 300- or 400-foot reels with stiff pushrod that's flexible enough for easy entry and turns. The 1.6-inch D34-CP self-leveling camera provides 700-pixel resolution to inspect up to 6-inch pipes. It includes the vCam-5 control module with an 8-inch color LCD; transmitting sonde; full-function keyboard; internal microphone; AC/DC power; rechargeable batteries; distance counter; camera LED brightness control; and digital recording to the USB thumb drives, SD cards, or internal hard drive. The control module ships ready to use with LACP software such as POSM, WinCan or MuniXS. **800-446-3392; www.vivax-metrotech.com.**

18 / WOHLER USA VIS 700

The **VIS 700 HD** inspection system from **Wohler USA** provides flexible features needed for a variety of applications. It offers razor-sharp HD images, zoom, a focus function via joystick for precise inspection, and the ability to stream live images and video to phones, laptops, and tablets via wireless LAN. It comes with a removable touch-screen monitor with adjustable handgrip, automatic screen rotation, an on-screen keyboard for notes, a voice-over recording option, a removable pushrod for quick and easy cleaning, and variable pan-and-tilt speed via joystick. **978-750-9876; www.wohlerusa.com.**

INSPECTION VEHICLE

19 / ARIES INDUSTRIES VEHICLE-MOUNTED INSPECTION SYSTEM

Inspection vehicles from **Aries Industries** provide a professional working platform with state-of-the-art control centers for municipal pipeline inspection. Trailers, high-cube trucks and cargo vans are custom-designed and built to meet specific requirements. They include easy operation with ample room to work, and storage space for equipment and tools. Design options include existing floor plans or customized packages. Electronic control systems are mounted in custom-designed racks, with efficiently designed workspace for operator convenience. A cable reel with a self-aligning roller bearing system

provides easy cable payout and long tractor pulls. A heavy-duty workbench provides space for equipment setup and repair. Diamond-plate flooring adds longevity. All-weather operation is possible with optional room heating and cold-weather doors. **800-234-7205; www.ariesindustries.com.**

MAPPING SOFTWARE

20 / CTSPEC SEWER OVERLAY EDITION MODULE

The **CTSpec** sewer overlay edition module lets the user edit pipe reference numbers, street names, the entry manhole or the exit manhole in an automated way directly in the inspection record. This module allows the user to change the text of existing information; add missing information to the inspection record; change the position, color, and size of the information; and add or remove an observation. **888-965-8987; www.ctspec.com.**

21 / CUES GRANITENET

GraniteNet condition assessment software for the public works industry from **CUES** is asset-based, which enables it to easily interface with other asset-based software products such as ESRI ArcGIS Mapping systems and asset management systems to include Cityworks, INFOR, IBM Maximo, and others. Intuitive and easy to use, data and video can be accessed via a web portal. **800-327-7791; www.gnet.us.com.**

22 / PIPELOGIX GIS

With the addition of the **PipeLogix GIS** module added to ArcMap, supervisors can view all surveys performed on an asset. The toolbar filters survey data in the master database to highlight pipes with selected conditions, grades, or score values, allowing the user to link to the movie or survey. Survey conditions can be exported to a shape file or a geodatabase feature class. When opened in ArcMap, this layer displays the condition along the length of pipe. Selecting the condition will link to the movie and jump to the correct footage for viewing. Seeing the problem and where it exists on the pipe can make it easier to schedule repair and cleaning crews. The system is compatible with ArcGIS 10.0 through 10.5. **866-299-3150; www.pipelogix.com.**

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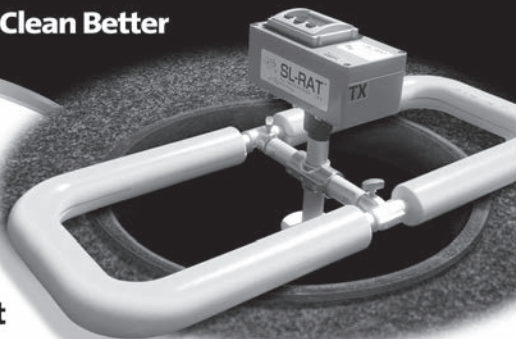
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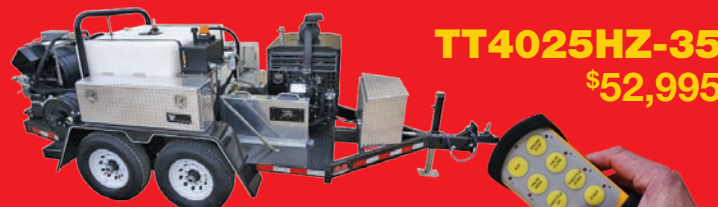
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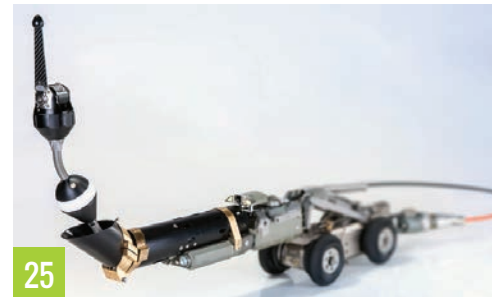
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23



24



25

23 / WINCAN

Maintaining sewers starts with understanding sewer condition, and **WinCan** makes it easy to collect detailed, standards-compliant inspection data. It identifies trends, pinpoints hot spots, prioritizes maintenance and helps forecast budgets. Its broad range of reporting and data visualization tools lets the user drill down to the insight needed. Integrate with the GIS mapping system of choice or use included mapping tools for increased capabilities. It works with all brands of sewer inspection technology, including crawlers, zoom cameras, and push cameras, as well as all major applications of side scanning, laser profiling, manhole scanning, and other emerging technologies, and it integrates with many municipal asset management applications. Its modular design lets the user expand capability as needs evolve. Add-on modules support emerging technologies like side scanning, laser, sonar and 3D visualization. 877-626-8386; www.wincan.com.

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SONAR PROFILING

24 / INFOSENSE SEWER LINE RAPID ASSESSMENT TOOL

The **Sewer Line Rapid Assessment Tool**, or SL-RAT, from **InfoSense** uses active acoustics to provide a quick view of blockage conditions within gravity-fed sewers. The test takes three minutes with no flow contact. It allows a crew of two to inspect 10,000 to 20,000 feet per day. It is Environmental Protection Agency-validated and GPS-enabled. Data can be downloaded to the Sewer Line Data OrGanizer, or SL-DOG, cloud application for visualization in Google Earth or integrated with enterprise/GIS applications. 704-644-1164; www.infosense.com.

25 / RAUSCHUSA LATRAS

The **LATRAS** lateral tracking system from **RauschUSA** is a modular upgrade to the Rausch M-Series product line for the automatic measuring and graphic documentation of pipe laterals. The system's control electronics capture the direction of motion of the sensor head behind the KS 60 dB digital lateral camera. These coordinates are registered constantly in parallel with the inspection and allow the documentation of the laterals at the same time without any significant additional work for the operator. 877-728-7241; www.rauschusa.com. **C**



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Mainline Sewer Inspection

By Craig Mandli

PORTABLE MAINLINE INSPECTION SYSTEM SAVES TIME AND MONEY

PROBLEM / Two years ago, the city of Cedarburg, Wisconsin, was looking for an affordable solution to assess their sewer mainline and lateral infrastructure.

SOLUTION / The city purchased an **Insight Vision Cameras IRIS** portable mainline crawler sewer inspection system. The compact system combines a motorized crawler, a motorized power-rewind/feed-assist cable drum, and an easy-to-use inspection application. The corrosion-resistant brass bodied crawler offers a 180-degree pan and 360-degree tilt camera to inspect pipes from 6 to 12 inches (up to 18 inches with optional pneumatic wheel set). The reel has 600 feet of Kevlar coax cable and numerous USB, HDMI, and SD external ports. The 10-inch, daylight-readable touch screen has the easy-to-use Insight Vision Cameras app running on a Windows 7 operating system with Intel i5 processor.

RESULT / “The app makes it so easy to set up” says Dennis Grulkowski, city of Cedarburg technician. He has the IRIS reel mounted on a cargo trailer with a propane generator for power and a small office with large screen, keyboard and mouse. “We take the video from the inspections and upload it to our GIS system for future development and alleviation of inflow and infiltration.” **800-488-8177; www.insightvisioncameras.com.**



CRAWLER CAMERA A FIT FOR DRAIN CLEANING BUSINESS

PROBLEM / Kevin Cameron, owner of Drain Services in Fargo, North Dakota, was looking for a pipeline inspection system that could also be a workhorse for pipeline point repairs, and he determined that a component-style system would be the best solution for his diverse needs. “I was looking at many manufacturers,” he says. “This was my first major equipment financing deal. I did a lot of investigating to gain the most work for my investment.”

SOLUTION / While getting Pipeline Assessment and Certification Program-certified, Cameron told his instructor about the system he sought: “I wanted a six-wheel-drive with enough grip to pull sectional point repairs into place,” he says. “He told me about **Trio-Vision Cobra**, whose crawler is big and heavy, with a robust 13-wire cable and a powerful reel that could act as a winch and could do exactly what I wanted.” Cameron requested to install the components himself in a unique, very mobile and agile, hybrid van. The company’s build-out team responded by having it all plugged in when he showed up to show him how it worked. Then they broke down the components and packed them into military-grade cases. “All I had to do was open them up, plug and play,” he says.

RESULT / “Now I not only have a robust pipeline inspection system, but also a hardy workhorse to help me accomplish remote point repairs, without having to invest in another specialized piece,” Cameron says. “I think everybody is extremely happy with how it’s going. I know I am.” **800-443-3761; www.trio-vision.com. c**



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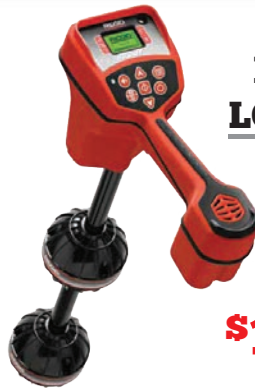
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SPOTLIGHT

Control unit helps take command of sewer inspections

By Craig Mandli

With the technology employed in sewer inspections becoming increasingly advanced, simplifying control can be a key to keeping the learning curve low and profits high. With that in mind, Envirosight's all-in-one VC500 controller for the ROVVER X sewer crawler lets users take command of the inspection from start to finish.

The VC500 allows an operator to build a Pipeline Assessment and Certification Program-compliant inspection, then upload it wirelessly to the cloud for instant access anywhere, on any device with a browser. The

controller also includes a suite of tools to measure pipe diameter and bend, crack size, obstructions, flow level, lateral diameter and angle, and inclination. In addition, it brings drag-and-drop simplicity to the task of overlaying video with inspection data, system status and images. These features are all in the name of efficiency, according to Jake Wells, the company's director of marketing.

"Municipalities are chronically underfunded and overburdened," he says. "The only way for them to keep ahead of sewer maintenance is to improve their efficiency and make decisions based on better data. As the first crawler system to embrace cloud technology, the VC500-based ROVVER X slashes the time it takes for data entry and data sharing. And when combined with the full power of WinCan Web, it delivers superior insight based on comprehensive, PACP-compliant data."

The VC500 has two multifunction joysticks for operating the camera and crawler. All other functions are accessed via touch screen using intuitive, swipeable interface panels and fly-out controls. It interfaces seamlessly with WinCan Web, the online sewer data platform that allows inspections to be shared instantly and securely just by emailing a link. When connected to WinCan Web, a VC500 user can upload inspections to the cloud or import assigned inspections with prepopulated header data.

"As the crew completes the sections in the project, the supervisor can monitor progress remotely," Wells says. "When the project is complete, the crew transfers it back to WinCan Web, where the supervisor and other authorized users can view the inspection data, video and images using any browser-enabled device."

"Of course, smaller municipalities may have smaller ambitions, and the VC500 allows you to transfer your inspections to a USB drive or your local server just as easily," Wells continues. "The beauty of the design is how it adapts to such a wide variety of user needs."

The VC500 is compatible with existing ROVVER X systems, and all new ROVVER X systems ship with the VC500 as standard equipment. 866-936-8476; www.envirosight.com.



1



2

1 VACTOR RDB 1015 RAPID DEPLOYMENT BOOM

Vactor has introduced the RDB 1015 rapid deployment boom as an option for the company's 2100 Series combination sewer cleaners, which include the Vactor 2100i and 2100 Plus trucks. The boom telescopes 10 feet out and extends the debris hose an additional 15 feet down for faster cleaning of catch basins, manholes and lift stations. The boom has a telescoping tube-within-a-tube design, and a flexible hose resides inside the inner tube. The hose extension assembly uses a positively driven belt to advance the flexible hose from inside the telescoping tube. When positioned for work, the hose remains securely in place. 800-627-3171; www.vactor.com.

2 GSSI STRUCTURESCAN MINI LT GPR CONCRETE INSPECTION SYSTEM

Rugged, compact, and flexible, the Geophysical Survey Systems Inc. (GSSI) StructureScan Mini LT is ideal for locating rebar, conduits, post-tension cables, and voids. It can help identify structural elements, including pan deck and concrete cover, and can also provide real-time determination of concrete slab thickness. The integrated all-in-one concrete inspection tool comes with an antenna, positioning system and control unit combination. It features an easy-to-use interface and six-button control options. With its 1.6 GHz antenna, the StructureScan Mini LT offers superior target resolution, reaching depths of 20 inches. 800-524-3011; www.geophysical.com. **C**



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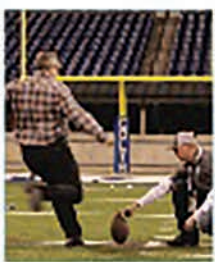
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Cusco announces new technical sales manager

Cusco announced Blaine Simon as its new technical sales manager. From lead operator to account manager, he previously worked in the heavy-equipment sector specializing in sales and water and sewer construction. Prior to Cusco, Simon worked as a territory manager for an online heavy-equipment rental site and was responsible for building account partnerships with OEM dealerships and independent contractors. As technical sales manager, Simon will be responsible for growing new and existing business accounts with dealers and end users.



Blaine Simon

Dwyer Group acquired by Harvest Partners

Dwyer Franchising (Dwyer Group) announced it has been acquired by Harvest Partners, a New York-based private equity firm. The deal marks the fourth and largest private equity transaction of Dwyer Group in the franchise organization's history. Terms of the deal were not disclosed. Based in Waco, Texas, Dwyer Group serves as a holding company for 20 service brands with a franchise network including more than 3,200 franchisees operating in the U.S. and eight other countries.

Paul Tiszai joins Trio-Vision

Trio-Vision announced the addition of Paul Tiszai as its new West Coast regional manager. Tiszai has been involved in the pipeline inspection equipment industry for over two decades. Prior to joining Trio-Vision, he held various management positions at SPX (formerly Pearpoint), working his way up from a technician's assistant position to management responsibilities in various departments such as production, service, and sales.



Paul Tiszai

StoneAge welcomes new VP of finance and IT

StoneAge welcomed Peter Brooks as vice president of finance and IT. He will be based out of the Durango, Colorado, home office and provide oversight of accounting, financial and information strategies.



Peter Brooks

GPS Insight recognized for outstanding customer service

GPS Insight was acknowledged for its exceptional customer service from the 2018 American Business Awards. GPS Insight won the Bronze Stevie Award for Customer Service Department of the Year in the software category. This is the sixth award for customer service GPS Insight has won in recent years. The company was also the only telematics company that received an award for customer service this year.

RIDGID names new director of product management

Steven Shepard was named director of product management for RIDGID in Elyria, Ohio. In this role, he will manage the development of new products from creation through launch, lead global, cross-functional new product development teams, and design and implement a growth strategy for RIDGID hand, tubing and pipe fabrication tools. Shepard, formerly with Black & Decker, holds a Bachelor of Science degree from Sam Houston State University.



Steven Shepard

Redesigned HammerHead website launched

The newly redesigned HammerHeadTrenchless.com website provides customers in a wide range of industries faster, easier access to in-depth information and resources regarding trenchless methods and products. In addition to improved navigation and design, other new features include: a dealer locator tool; enhanced product pages; links to purchase products on the e-commerce site; industry-specific content to help users find trenchless solutions to match their needs; and access to the HammerHead resource library, with user manuals, product literature and other documents.

2018 WJTA-IMCA Expo dates announced

The 2018 WJTA-IMCA Expo will be held Nov. 1-2 in New Orleans at the Ernest N. Morial Convention Center. Organized by the WaterJet Technology Association, the expo is a forum to connect contractors, asset owners, researchers, academics and suppliers to improve safety, technology and trade in the industry. Representatives from all related industry sectors will attend, including industrial, environmental and municipal water-blast cleaning and field services; industrial and municipal vacuuming; coating removal and surface preparation; concrete removal; hydroexcavation and related services. **c**

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Dave Denny 801-771-3038, UT C09

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2004 Vactor, Caterpillar engine with twin-turbo 375 horsepower. Tandem axle, 9-speed transmission, PD blower, 80gpm water pump. 15-yard debris tank with hydraulic door, 1,500-gallon water tank. Articulating reel with extend and retract with 600 feet of 1" hose. Extending boom, high dump. Call for more information. \$85,000 OBO

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C09



2017 Vacall AJVR1015 Recycler demonstrator unit. Truck features an 87gpm @ 2,000psi General water pump, hydro-X package, washdown gun, and clean-water washdown gun. 1,500-gallon water capacity, 1,260 recycled capacity and 240 dedicated clean. Lifetime warranty aluminum tanks. 10-yard galvanized debris tank with lifetime warranty. All filters are self-cleaning and have built-in back flushes - no need to clean a filter by hand. 824 Roots blower, 18". Truck is ready to go to work and includes a factory warranty. Low miles - 20,000 on Freightliner 114SD. 450hp Detroit diesel, Allison 4500 automatic. Call Brian for price, more photos, and details.

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C09



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C07



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C10



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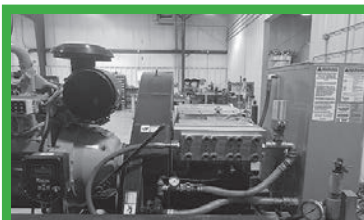
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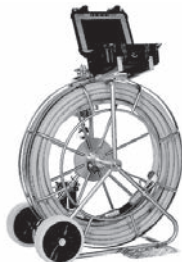
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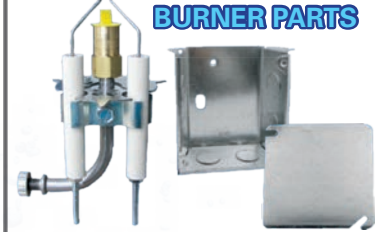
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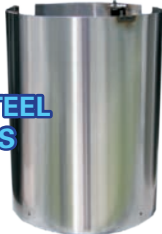
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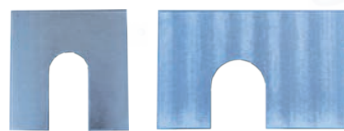
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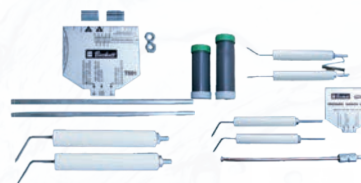
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