

# Cleaner

FOR DRAIN AND PIPE CLEANING, INSPECTION AND REHABILITATION PROFESSIONALS

SEPTEMBER 2020  
CLEANER.COM

TECH PERSPECTIVE / 20

BETTER BUSINESS / 24

BEHIND THE GEAR / 26

SPECIAL SECTION

INSPECTION & LOCATION / 43

MONEY  
MACHINES  
/ 40

## YOUNG GUN

DALTON COVEYOU HAS DEVELOPED A SUCCESSFUL COMPANY THAT TAKES ON EVERYTHING FROM EMERGENCY CALLS TO RESTORING PIPELINES IN HISTORIC BUILDINGS / 12

TV/VIDEO INSPECTION AND  
LOCATION DIRECTORY / 36

BEST OF THE DECADE

OHIO PLUMBER CREATES  
HER OWN NICHE  
/ 30







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## ON THE COVER

Hotshots Drain Cleaning owner Dalton Coveyou (right) and technician Corey Swope cure a 56-foot liner at the historic Iroquois Hotel on Mackinac Island, Michigan. Coveyou enjoys the challenge of working on legacy properties and is building a reputation for trenchless work done well. "We like it when we don't have to tear up lawns or we don't have to tear into 100-year-old walls with original wallpaper on them," he says. "I want to protect our heritage." (Photo courtesy of Social Guru 4 You)

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# CONTENTS

September 2020

## FEATURES

- 12 **Profile:**  
Young Gun  
Dalton Coveyou has developed a successful company that takes on everything from emergency calls to restoring pipelines in historic buildings.  
By Giles Lamberton
- 30 **Best of the Decade**  
Profile: Can-Do Attitude  
Young plumber invests in the right relationships and equipment to build a successful drain cleaning business.  
By Ken Wysocky
- 36 **TV/Video Inspection and Location Directory**
- 43 **>> SPECIAL SECTION <<**  
**Inspection & Location**

## DEPARTMENTS

- 8 **From the Editor:**  
Head to the Web  
Training and other events may look different for the near future, but you can find a growing array of resources online.  
By Kim Peterson
- 10 **@cleaner.com**  
Be sure to check out our exclusive online content.
- 20 **Tech Perspective:**  
Hands-On HDD Training  
Simulated, fundamentals-focused instruction helps horizontal directional drilling operators work safely and effectively.  
By Tim Dobbins
- 24 **Better Business:**  
Perk Up  
Offering a signing bonus or other noncash incentives can attract great employees, even if you can't afford a high salary right now.  
By Jeremy Eskenazi
- 26 **Behind the Gear:**  
Small-Diameter Lining Solutions  
NuFlow Technologies provides its certified contractors with the training and technology to become pipe lining experts.  
By Kim Peterson
- 40 **Money Machines:**  
A Flexible Fix  
Irregular-shaped or badly damaged pipes are no problem for this pliable, steam-heated liner.  
By Ken Wysocky
- 60 **Product News**  
Product Spotlight: Smoking out plumbing leaks  
By Tim Dobbins





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Jim Koshuta

## ADVERTISER INDEX - September 2020

### ALLAN J. COLEMAN

ALLAN J. COLEMAN Co. ....49, 57  
Cable Center, The .....63, 70



Cam Spray .....15



Central Oklahoma Winnelson .....65



Coast Manufacturing .....6

CPI Products / Cavallero Plastics .....56



CUES .....47



Draincables Direct .....29



Duracable Manufacturing Co. ....11

Electric Eel Mfg. ....54

Elliott Equipment Co. ....25



Envirosight, LLC .....5



Enz USA, Inc. ....35

EPL Solutions .....59

Forbest Products Co. ....35



GapVax, Inc. ....71



General Pipe Cleaners/General Wire Spring .....2



GI Industries, Inc. ....21



Gorlitz Sewer & Drain, Inc. ....33



Inspector Cameras, Inc. ....61

INSPECTORCAMERAS.COM .....61



KEG Technologies, Inc. ....59



Ken-Way Corporation .....65



Milwaukee Rubber Products, Inc. ....25



MyTana LLC .....17



Navitas Credit Corp. ....69



Nu Flow Technologies .....7



Paramount Pipe Lining Products LLC .....3



Pearpoint (USA) .....53



Picote Solutions .....69



Pipe Lining Supply .....8



Ratech Electronics, Ltd. ....58



Root Rat .....69



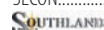
Rooter Hero Plumbing .....23



SECON .....61



Southland Tool Mfg. Inc. ....9



Spartan Tool, LLC .....72



Subsite Electronics .....51



T&T Tools, Inc. ....63



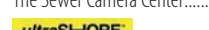
The Sewer Camera Center .....68



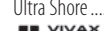
Ultra Shore .....39



Vivax-Metrotech Corp. ....55



Warrior Trenchless Solutions .....19



Westmoor Ltd. ....39



WinCan .....41

Classifieds ..... 66-68

Marketplace ..... 64-65

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## Profile

### NuFlow Certified Contractor

Randy Behle has been a NuFlow Certified Contractor since 1997. He investigated NuFlow when he was on a nursing home project with a pipe that was almost impossible to dig up and repair.

**"I was recommended by another Roto-Rooter Franchise. I tried sample products from other companies, but I wasn't impressed."**

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**"As soon as I got the first lining job done, the same nursing home called with another location that was bigger and we more than doubled our initial investment! It took just two jobs to turn a profit."**



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# Head to the Web

Training and other events may look different for the near future, but you can find a growing array of resources online

**Y**ou've heard "never stop learning" many times over your career. Your teachers probably said it in high school. Similar encouragement pops up in business-related articles all the time. I know I've written it in this column before.

Developing relationships with people who have been through problems similar to those you face or who have already achieved goals you share will help you learn and grow. Whether they are competitors, mentors or friends, conversations with these people help push you to explore new ways of doing things, try new equipment you're unfamiliar with, or reconsider a marketing or brand strategy.



Kim Peterson

The pandemic we've been dealing with in 2020 has changed the way we interact. You probably deal with customers much the same way, with some extra precautions in place. But other interactions — such as interviews, local business association meetings or state association meetings — needed to move online. Any conference or training you were scheduled to attend this year probably went digital as well. Luckily, we have the technology.

Online learning has been a reality for a long time. But we've never relied on it quite so much as this year. Obviously there's no true substitute for in-person conversation and interaction, but online options, whether Zoom calls, interactive webinars or prerecorded videos, are a great replacement when you can't get the real thing.

In this month's Tech Perspective, we discuss some ways directional drilling companies have incorporated virtual and online training. A lot of the training can be done online. Some needs to be done in-person, but often these courses are hosted by regional dealers, which makes traveling for training more feasible. And even in the classroom, simulations are a huge component of this training. For instance, all of the Ditch Witch dealers in North America have virtual reality simulators that allow the operator to experience a variety of different digging sites and applications.

Here at COLE Publishing, it's always been our goal to be a good resource for our readers. We know that accessing content that can help expand your industry knowledge is as important now as it's ever been, so we are working to bring you more online resources.

We created a series of Virtual Training sessions across our brands — *Cleaner* included — to further serve our readers amid social distancing recommendations. These prerecorded training videos are available at [Cleaner.com](http://Cleaner.com) and our other sites for viewing at any time, allowing you to listen and view at your own pace when it best fits your schedule.

Topics already posted to the *Cleaner* website range from safety, business adaptations in the wake of COVID-19, and selling services in the digital age to trademark law and artificial intelligence in CCTV sewer condition assessment. New training topics will be continually added. You can watch these videos anytime by visiting [www.cleaner.com/video/webinar](http://www.cleaner.com/video/webinar).

I hope you check them out and keep learning.  
Enjoy this month's issue. **c**

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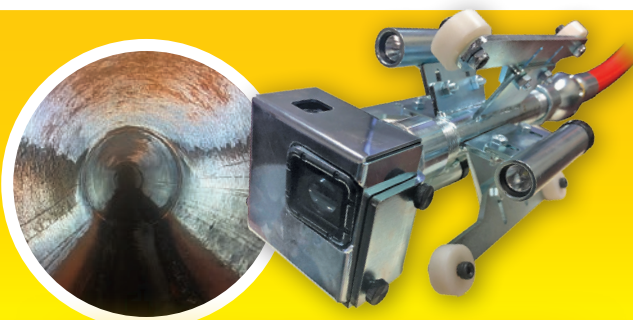
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## OVERHEARD ONLINE

“The more communication, the better. In the absence of communication, family members will have expectations that may be unrealistic and can lead to disharmony and litigation. When everyone knows the plan, some may not be happy, but no one is surprised.”

— 7 Steps for Creating a Smart Succession Plan

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## SAFETY REMINDER

### Don't Become a Trench Collapse Statistic

We're still in the heart of construction season, so it's worth once again emphasizing the importance of trench safety. This piece written by George Kennedy, vice president of safety for the National Utility Contractors Association, was published during the organization's Trench Safety Month in June and looks at the dangerous ramifications of overlooking safe excavation protocols.

[>>cleaner.com/featured](https://cleaner.com/featured)



## OPEN TO CHANGE

### Adversity Breeds Opportunity

Even in an essential industry, some contractors have seen a decrease in certain types of jobs during the course of the coronavirus pandemic. But that doesn't mean simply having to accept reduced revenue. This online exclusive looks at how you can find growth opportunities for your business, even during challenging times. [>>cleaner.com/featured](https://cleaner.com/featured)



## WORK CULTURE

### Keep Employee Engagement High

Employee engagement is always one of the biggest issues facing employers. Studies consistently show that disengaged workers contribute heavily to lost productivity, low morale, high absenteeism and costly turnover. This online exclusive examines some of the many solutions out there that can keep the employer/employee connection strong. [>>cleaner.com/featured](https://cleaner.com/featured)



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« Hotshots Drain Cleaning owner Dalton Coveyou cleans and inspects drainlines to prep for a CIPP lining job at the Iroquois Hotel on Mackinac Island, Michigan.

# YOUNG GUN

Dalton Coveyou has developed a successful company that takes on everything from emergency calls to restoring pipelines in historic buildings

By Giles Lamberton // Photos courtesy of Social Guru 4 You



## Dalton Coveyou has spent his young life taking care of others, so it's no surprise he's finding success in the service industry.

As the oldest of five children in Petoskey, Michigan, Coveyou had to grow up fast after his mother passed away when he was 13.

He entered the workforce full time after high school as a plumbing apprentice and eventually landed a job as a technician with a Petoskey business called Ballard's Plumbing, Heating, Air Conditioning & Refrigeration. He then earned a journeyman plumbing license.

After three years at Ballard's and a year in a union shop, Coveyou was ready to open his own business. He named his company Hotshots Drain Cleaning as a nod to his four years of volunteer work with Resort Bear Creek Fire and Rescue. Coveyou was encouraged to start a business by Facebook friends on a page called The Plumbing Hacks, and his cousin and fellow firefighter, Jason Smith, also supported him.

He decided he would offer a specialty service — drain cleaning — because it offered a natural customer-feeder system. “Most journeyman plumbers don't want to touch a drain machine. It's a dirty job,” says the 25-year-old business owner. So, tapping his connections, he set out to persuade fellow plumbers to call him for their drain cleaning work.

“We are strictly doing cleaning and wastewater treatment work. If we were doing plumbing jobs, too, they wouldn't call us. About 80% of plumbers call when they need a drain cleaned. They all know me from when I worked in the trade. It's really great.”

If Hotshots didn't do a good job on the first call, however, the plumbing allies wouldn't call the company a second time. Judging from its five-star reviews on Google, it consistently does good work. “We have top-notch equipment and take pride in being super clean on our customers' property,” Coveyou says. “Plus, we warranty all of our work. We're really big on that.”

A product of his time, he swears by social media, mostly advertises through Facebook and Instagram, and leverages his company's five-star Google reviews. This past spring, Coveyou formalized his online campaign by hiring a local marketing firm to promote Hotshots. The company, Social Guru 4 You, is the work of two Petoskey women, Jasmine Turner and Kalley Atkins. They focus on helping northern Michigan businesses promote their message through social media channels. “They're a great group of girls,” Coveyou says.



**Hotshots Drain Cleaning**  
**LOCATION:** Petoskey, Michigan  
**OWNER:** Dalton Coveyou  
**FOUNDED:** October 2019  
**EMPLOYEES:** 3  
**SERVICES:** Drain cleaning, jetting, pipeline inspection, septic system wastewater treatment, CIPP lining  
**SERVICE AREA:** 120 square miles of northern Michigan  
**WEBSITE:**  
[www.hotshotsdraincleaning.com](http://www.hotshotsdraincleaning.com)



» The Michigan-based Hotshots Drain Cleaning crew includes (left to right) Jason Smith, Mitch Schley, and owner Dalton Coveyou.





« Technician Mitch Schley descales and inspects cast iron drains at a robotics factory in Pellston, Michigan.

» Dalton Coveyou installs a SludgeHammer treatment system at Pond Hill Farms in Harbor Springs, Michigan.

Yet he also relies on word-of-mouth and a throwback — the phone book, which he uses to tap the older demographic in his customer base.

## ON CALL

Petoskey is situated on Little Traverse Bay near the northern tip of Lower Michigan. It formally dates from the 1870s, so much of its underground infrastructure is cast iron and clay. Most of Coveyou's service calls are to clean 4- and 6-inch sewer lines and drainpipes, with 70% of the calls coming from homeowners. And though Hotshots enjoys a working relationship with a home inspection company for video inspection of drainlines and septic drainfields, most of the cleaning calls are spur of the moment.

"We'll get two or three service calls a day on a slow day, six to eight on a busy day." He says the 24-hour emergency service prominently advertised on the Hotshots website predictably results in middle-of-the-night calls. "I like doing emergency work. I don't mind getting called at 2 a.m. to prevent a sewer line from overflowing a house. It's not unlike firefighting, actually. I enjoy helping people."

The company office at Fochtman Industrial Park is where Hotshots' two Chevrolet vans roll in for equipment and supplies each day. In the equipment yard and trucks are an assortment of RIDGID drain cleaning tools including a K-5208 sectional 1 1/4-inch cable model, plus K-50, K9-102 and K9-204 units, and a K-6 closet auger.





Another tool is a 110-foot, 1/2-inch Clog Dog, a flex-shaft drain cleaning cable invented by a company — Clog Squad, a RIDGID tool distributor located in Hammond — that supplies Hotshots with all its equipment. Coveyou praises the Clog Dog for its precise operation and cleanliness, which dovetails with his own penchant for performing spotless work in customers' homes.

Other Hotshots tools include a Honda-powered GX390 Water Cannon for septic system drainfield cleaning and a Watson camera system.

"The camera is not the most expensive one on the market. We can't afford those cameras yet. But it works fine, and we get the job done and done right the first time." For the same reason, he has deferred getting a trailer jetter for enhanced root removal, though procuring one is in budget plans. Until then, the Water Cannon gets the job done.

Somewhat surprisingly, also found in the equipment yard is a Bobcat 325, a mini-excavator with a 27 hp Kubota engine. While most underground pipes that Hotshots inspects and cleans are intact,

**"I like doing emergency work.  
I don't mind getting called at 2 a.m.  
to prevent a sewer line from  
overflowing a house."**

Dalton Coveyou

sometimes a broken segment is discovered. When that occurs, the company leaves it up to the customer on how to proceed: Let Hotshots uncover and replace the failed portion of the line or contact a contractor. "We'll locate and determine the depth of the broken pipe. If a contractor is wanted, we can recommend one."

## PRESERVING A LEGACY

Winters in northern Michigan are undeniably cold. Counting on that cold are three ski resorts in the Petoskey area, four indoor and outdoor ice skating facilities, and snowmobiling and cross-country skiing and snowshoeing venues. But Petoskey is a summertime resort town, too. So-called snowbirds flock back north to enjoy summer temperatures from May through September.

The summer visitors spend six months walking the shore of Lake Michigan looking for ancient fossil coral called Petoskey stone or visiting casinos and other resort attractions on the Lower Peninsula. Some ferry across the Straits of Mackinac to Mackinac Island.

CONTINUED >>



## Pressure Washers & Drain Jetting Equipment



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**CV2712H-HOT** • 12 gpm @ 2700 psi  
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## Adding septic service

Hotshots Drain Cleaning has customers across 120 square miles of the northern part of the Lower Peninsula of Michigan. Because it operates in a region of small cities and rural landscapes, Petoskey-based Hotshots offers both septic tank solutions in the country and cleaning solutions for clogged drainlines and sewer lines in urban areas.

The septic service is called SludgeHammer, a finely engineered and scalable system that can be installed in existing septic systems to manage anaerobic bacteria. Over time, those bacteria create layers of sludge in septic systems that block soil from absorbing waste. The SludgeHammer system is designed to biologically restore equilibrium underground, letting septic systems work properly with appropriate application.

Ecology scientist Dr. Dan Wickham says he solved the septic sludge dilemma after years of bacterial research and introduced it through his company, SludgeHammer Group.

“There are 160 distributors and installers in more than 17 countries, and Hotshots is one of them,” says Dalton Coveyou, Hotshots president. “We are very fortunate to have the SludgeHammer world headquarters here in Petoskey.”

While the manufacturer has distributed its septic system product from northern Michigan for nearly 20 years, the Hotshots affiliation is new. In the spring, the COVID-19 pandemic added to septic tank work for Coveyou since property owners were staying at home — and overloading their septic drainfields.

When Hotshots was launched as a drain cleaning firm in 2019, Coveyou immediately saw the alignment of the septic tank system with his drain cleaning work and signed up as a SludgeHammer franchise-holder.

“They send me a lot of work,” he says. Most of the jobs are in northern Michigan, but not all. Coveyou has traveled as far away as New York state to install a SludgeHammer unit in a monastery.

Hotshots’ vans carry the SludgeHammer name too, alongside the company logo, to promote the partnership.



“We have competition, but we’re good at what we do. We inspect lines before and after, and we dependably fix problems.

**And we’re the only one to offer a warranty on our work, a three-month warranty on all drains.”**

Dalton Coveyou

Coveyou takes the same ferry to clean drains in well-preserved historical buildings and businesses, the kinds of properties where cleanliness is appreciated.

Mackinac Island’s year-round population of 500 is augmented each summer by 15,000 visitors and seasonal residents, while Petoskey has a base population of about 6,000 residents and experiences a similar influx of returnees and visitors. “The city triples in population in the summer,” Coveyou says, which is good for his business. Not only is there a corresponding increase in emergency drain cleaning opportunities, but inspections and cleanings also multiply as snowbirds return to properties that were closed up for six months.

Although a relatively new business, Hotshots gets plenty of work. “We have competition, but we’re good at what we do. We inspect lines before and after, and we dependably fix problems. And we’re the only one to offer a warranty on our work, a three-month warranty on all drains. If, say, a backup in a line develops a week after we’ve completed work, there won’t be another bill. So far, we’ve had no callbacks.”

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➤ Though Hotshots was launched as a drain cleaning firm, Coveyou immediately saw the alignment of the SludgeHammer system with his other work and gets a lot of business sent his way as a SludgeHammer franchise-holder.

➤ Mitch Schley clears a sink drain with a RIDGID FlexShaft drain machine.



Hotshots also offers some compatible services, such as the SludgeHammer wastewater treatment system (SludgeHammer Group) and a cured-in-place pipe lining product. The latter service was rolled out after Coveyou became curious about the technology and teamed up with a friend to offer it.

“I take classes in different things,” he says simply. Last fall, he found himself in a pipe lining class at Clog Squad Academy, the training component of his Hammond tool supplier. After he finished the class, one of his first jobs was lining a pipe in the Hotel Iroquois on the Mackinac Island waterfront. With the closest CIPP competitor three hours away, Coveyou is hoping to corner the lining work in northern Michigan. “It’s going great.”

“We like it when we don’t have to tear up lawns or we don’t have to tear into 100-year-old walls with original wallpaper on them.  
**I want to protect our heritage.”**

Dalton Coveyou

Coveyou has set his sights on expanding Hotshots’ various services across northern Michigan. “I want to have about eight vans on the road to get to every town around here.” He plans to build his company’s reputation as a drain cleaning and trenchless pipe lining

service with an appreciation for legacy properties. “We like it when we don’t have to tear up lawns or we don’t have to tear into 100-year-old walls with original wallpaper on them. I want to protect our heritage.”

He loves his work, adding, “It is a lot of work, don’t get me wrong. But the rewards are well worth it.”

Looking back over his company’s short history, he gives some advice for starting out in the industry: “Don’t get too big too fast. Make great connections through networking. Take pride in what you do. Don’t be afraid to take a risk, because mistakes can be good when you learn from them. I’ve learned from mine.”

In an industry that requires professionals to have a wide selection of tools on hand, Coveyou also cautions against going tool-crazy. “I buy tools as I go, upgrading what I have and only buying specialty tools as I need them. I don’t want to ‘buy’ myself into debt, so I pay cash if I can. You really don’t need to have the best equipment in the beginning. Your best tools are your hands.” **c**

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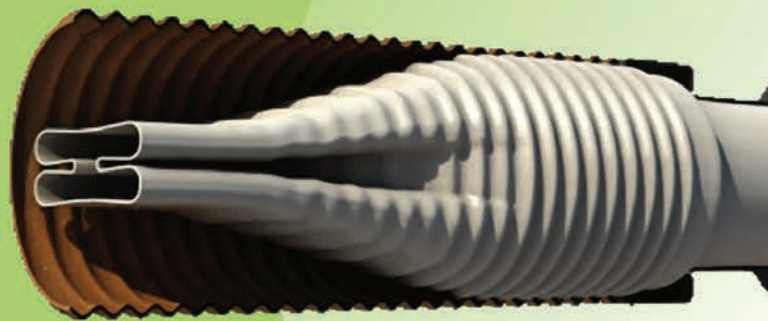




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# Hands-On HDD Training

Simulated, fundamentals-focused instruction helps horizontal directional drilling operators work safely and effectively

By Tim Dobbins

**T**he evolution of horizontal directional drilling can be traced back to the early 1970s when 600-feet of steel pipe was installed under the Pajaro River in California. A lot has changed since then.

Continuous advancements in technology like GPS tracking and magnetic steering has taken the art of directional drilling to new levels. With a maze of underground utilities and other hazards to deal with, a lot can go wrong on the job site when a project is not

conducted properly. And, of course, you want to minimize downtime for that expensive equipment. But as is the case with every piece of equipment, the drills are only as effective as the people operating them.

Ensuring that you and your team are keeping up with the advancements and changes can seem daunting, but there are companies offering specialized HDD training.

Professional equipment training from manufacturers and dealers isn't a new concept, so developing standardized HDD training was not overlooked.

"As the size of the market continued to grow and the different types of uses for this equipment continued to grow, we quickly saw we needed to have a higher level of training for our HDD products," says Greg Wolfe, director of customer care for Ditch Witch.

According to Wolfe, HDD operations require different training because the unique machines require operators to think differently than when using equipment they are more familiar with.

"It's not like jumping on an excavator or trencher; it's a little bit different. One of the hardest things you have to teach is to think three-dimensional," Wolfe says. "Most of us see two dimensions; we don't always see what's beneath the ground."

✓ Whether you are a first-time driller or seasoned veteran looking to brush up on changes in regulations and equipment, professional HDD training can help equip you with the knowledge to perform on the job site.



✓ HDD operations require different training because the unique machines require operators to think differently than when using other equipment, such as thinking in three dimensions instead of two.





Dan Vroom, sales and industrial training manager for Vermeer, also believes that the more frequent personnel changes in today's industry are another reason that having standardized training is so important.

"As quick turnarounds happen and people are leaving, coming in and swapping positions, we're finding that the guy who was the locator is now on the drill," Vroom says. "Now people are hitting more utilities because they are making the decisions from the drill instead of the locator."

### TRAINING OPTIONS

Whether you are a first-time driller or seasoned veteran looking to brush up on changes in regulations and equipment, using a professional HDD training platform can help equip you with the knowledge to perform on the job site.



**"One of the hardest things you have to teach is to think three-dimensional.** Most of us see two dimensions; we don't always see what's beneath the ground."

Greg Wolfe

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“We offer multiple certified training modules online, and they are all free,” Wolfe says. “They all start with best practices, and that covers job site safety.”

The next Ditch Witch training module, called operational overview, covers the basic operational functions and terminology for HDD equipment operation. This section is great for beginners who have yet to sit on and operate a drill. “The next four modules — drilling fluids, HDD guidance, drill pipe and HDD tooling — make up how successful an operator or, more important, a drill on a job site is going to be,” Wolfe says.

Ditch Witch offers these training modules online, but it also takes training a step further at a regional level using members of their dealer program. “You can go to Minnesota, or California, or Florida, and you’re going to experience different soil conditions,” Wolfe says.



➤ Using virtual reality simulators provides a safe way for trainees to gain experience without jeopardizing real equipment, utilities and the safety of other people.

“By putting this program together, we are able to deliver consistency of training. We truly believe in training at point of purchase in the region of use.”

By educating users in a local environment, not only are they getting trained in relatable ground conditions, but they are also involved with the local support staff they can use moving forward.

After the classroom portion, they go into a hands-on, simulation atmosphere. All of the Ditch Witch dealers in North America have virtual reality simulators that allow the operator to experience a variety of different digging sites and applications.

“The beautiful thing with the VR simulator is that if they make a mistake — let’s say they hit a utility — in the real world that shuts

down a lot of things. With the VR simulator, we can hit reset and send them back to the beginning and start all over,” Wolfe says.

This platform provides a safe way for trainees to get a sort of hands-on experience without jeopardizing real equipment, utilities and the safety of other people. Vermeer also saw the benefits of VR simulation training and will be adding that to their existing training program in the near future.

“We have two courses here at Vermeer that are certified,” Vroom says. “One is a one-week course (HDD Circuit I) where you send two people. One person is focused on locating and planning, and the other partner focuses on the drilling, mud mixing, that sort of stuff.”

They also offer a course called HDD Circuit II where a single attendee spends two weeks learning all the roles of drilling instead of splitting the hours with a team member.

Both courses begin in the classroom before spending several days doing hands-on training as a driller and locator. A range of topics are covered including drill site safety, soils, drilling fluids, setback calculations, bore planning, rod bend capabilities, calibration and steering commands. The final day of each course gives attendees a chance to test out and prove what they have learned.

Vroom also mentions the importance of safety training throughout operational training. “We like to start out talking about job site accident stories so when they go out for the first time, they have a little bit of reserve and respect.”

Another Vermeer offering, the HDD Fundamentals Program, allows dealers to deliver the same content and training at a regional level, limiting travel for attendees and allowing operators to learn in their local ground conditions.

“The content we have created shouldn’t be a secret,” Vroom says, “so we’re making that available to our dealer networks as well. We have the ground; we have the equipment to do hands-on training at the factories; and we have the trainers.” He also pointed out that the training truly does focus on the fundamentals, and by doing so, the content learned can be applied no matter what equipment brand the operator is using.

## END GOALS

Though parts of these training options may follow different platforms, the end goals are universal: prepare people to safely and effectively execute HDD drilling jobs, no matter where they are and what they are operating.

According to Wolfe, one of the most important things to remember from training is safety. “Safety comes first. Job site safety is No. 1. When you forget, that’s when you get in trouble.”

For Vroom, it’s confidence: “confidence in the fundamentals. When they’re not second-guessing themselves and they’re not listening to someone else who doesn’t know the training they’ve been through, that’s the key.” **c**



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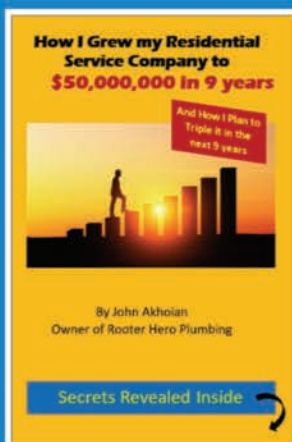
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Jeremy Eskenazi

# Perk Up

Offering a signing bonus or other noncash incentives can attract great employees, even if you can't afford a high salary right now

By Jeremy Eskenazi

**H**iring has never been simple. In 2019, the employment rate was at an all-time high and top candidates were able to negotiate and take their pick of jobs.

In 2020, the opposite has been true. A record number of people are out of work. You might have put a hiring freeze in place, and a lot of small businesses had to let employees go.

Even if your company hasn't been dramatically impacted by the pandemic and resulting economic downturn, you still may not be in a position to offer a top-dollar salary when you're looking to hire again.

An important thing to note is that salary has traditionally been king. And this king is powerful because it compounds year over year on your list of expenses. Not every company can spend more now, but every company wants to attract and retain the best talent for its team. This is where your brand can be a strategic differentiator

**A hiring bonus can be a great perk.** The benefit to your bottom line is that it's a one-time cost, not a recurring cost like a salary.

as you explore your flexibility to spend money. But it's important to remember that people don't come to work just for money. Everyone wants to feel valued and do interesting work for a great company. There are a few ways to minimize the amount of extra cash you need to help land the best candidates.

As you assess your budget and hiring needs for the next several months, you may find you have less flexibility to offer bigger salaries. While everything has some cost, there are alternative areas you can invest in that cost much less and will not steadily rise like a salary. Here are eight ideas that might help you:

**1. Offering flexibility** – Whether it is the start and end time of the workday, a compressed workweek or the offer for certain office positions to work from home, these are all coveted offerings. If the job allows for flexibility, it's worth considering.

**2. Offering perks** – There are tons of creative offerings that matter to employees and are often available at a small cost. A few examples of perks are subsidies for public transit, extra uniforms provided by the company, meal services at work, a monthly budget to use ride-sharing services instead of commuting, free or discounted laundry/dry cleaning, and popular gym or lifestyle club memberships or discounts. If possibly, you could even add the amenities to your own office building to make it even easier for your employees to take advantage of. For example, George Garner of Next Plumbing added a full-service gym complete with locker room for his staff to work out in. It's an expense upfront, but his employees love it; and anything that improves employees' overall health and well-being will, in turn, increase productivity.

**3. Part-time or job-sharing work** – Many people have their own reasons for wanting to work less than full time. Offering part-time or job-sharing options where two people perform what was once a full-time job can give you more coverage in talent and attract some amazing candidates who wouldn't otherwise be a fit.

**4. Having good managers** – A positive workplace culture is a competitive advantage. If you invest in managers who care about their teams and prioritize teaching and coaching employees, you will be able to attract, develop and, most important, retain your top talent. It's been proven many times that people work for people, not companies, so make sure you and your managers are good listeners, care about your people and can show empathy.

**5. Offering hiring bonus/signing bonus** – A hiring bonus can be a great perk. The benefit to your bottom line is that it's a one-time cost, not a recurring cost like a salary. For example, if you can give someone an upfront, one-time cash bonus, it will save your company money year-over-year compared to a larger starting salary. A bonus can be paid within the first three months and can have a condition of repayment if the employee leaves before a set amount of time. For hourly workers, even a few hundred dollars upfront can make a big difference.

**6. Starting benefits coverage earlier** – The traditional model for health care benefits in Canada and the U.S. has been to delay offering benefits for 90 days to get through a probation period. If you can offer these from day one, especially in the



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Jeremy Eskenazi is an internationally recognized speaker, author of *RecruitConsult! Leadership* and founder of Riviera Advisors, a boutique recruitment/talent acquisition management and optimization consulting firm. He can be reached via [www.rivieraadvisors.com](http://www.rivieraadvisors.com).



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# Small-Diameter Lining Solutions

NuFlow Technologies provides its certified contractors with the training and technology to become pipe lining experts

By Kim Peterson

**A**s the demand for trenchless pipe lining continues to rise, NuFlow Technologies remains dedicated to providing new solutions for pipe rehabilitation.

For more than two decades, NuFlow has focused on small-diameter pipe lining systems that can be used in even the most intricate of piping systems. The company partners with contractors who become licensed to use its technology, providing extensive training in order to build a strong network of certified installers.

*Cleaner* recently spoke with Tom Bowman, NuFlow director, about the company's offerings and its unique relationship with its contractors.

**Cleaner:** Tell us a little about the history of NuFlow.

**Bowman:** NuFlow was founded in 1998 based on the need for a trenchless pipe lining solution for small-diameter pipes found in single-family homes. NuFlow developed a targeted installation method using a calibration tube combined with epoxy resins impregnated into felt that would form to the shape of the pipe and cure in place. Once the formula was developed and patented, the company began single-family home installations in addition to selling and teaching the process to other plumbing contractors.

Since then, NuFlow has been leading the way in the rehabilitation of intricate plumbing and piping systems. The business is now located in a 50,000-square-foot ISO 9001:2015 production and distribution facility in Ontario and has headquarter offices and training facilities in San Diego. The NuFlow network has grown to more than 250 NuFlow certified contractors with a presence on six continents.

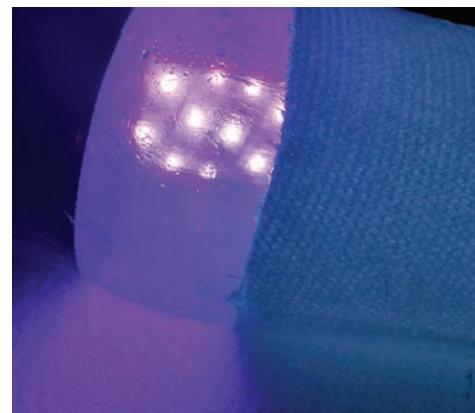
**Cleaner:** What differentiates your lining systems from the competition?

**Bowman:** Part of what defines our technology is our focus on small-diameter piping. To get "inside the building," we have developed a foundation of materials and installation methods that allow us to



Installers prepare NuDrain epoxy liner, a nonpressurized CIPP that uses NuFlow's Precision PIP placement.

NuFlow's NuCure CCUV proprietary system combines a Pro-Kanal double-helix light core with new cold-cure resins.



service some of the most intricate piping systems. Precision PIP (push or pull in place) is our signature install method that follows simple principles of installation. It does not require any expensive inversion equipment, but it gives the contractor control over the install for perfect positioning in the pipe. Jobs can start and stop anywhere in the pipe system and use existing access points.

Another key differentiator that sets NuFlow apart is our training and support. The NuFlow team is made of seasoned professionals who bring a wealth of knowledge about the technology and the industry. When we partner with a new contractor, we want to make sure they are prepared. We think training is more than how to the install the product, so we offer Apprentice to Master curriculum, along with job support, business and sales training resources, job quoting materials, a multitude of in-class and online trainings, as well as education materials and large project support. It is a partnership that is always developing — we want our contractors to be successful, both for their benefit and ours.

**Cleaner:** Tell us about the lining systems, what applications they best serve and the needs they address.

**Bowman:** We've developed and patented many resin formulas over the years, so we can service any type of pipe system — drain, waste and vent systems, industrial waste and high-temperature applications, potable water, chiller, compressed air and gas systems. Our exclusive formulations seal the pipe from the inside to correct any cracks or leaks and provide protection against further damage and corrosion.



Our materials and install methods allow for rehabilitation of an entire piping system including wyes and tees. The most common of these is NuDrain, a nonpressurized CIPP that uses our Precision PIP placement. Using this method, we can verify placement with a camera alongside the repair, ensuring a proper installation and quality repair.

**Cleaner:** What are some recommendations for customers shopping for trenchless pipe repair systems?

**Bowman:** The first things for a contractor to consider are the technology options. We provide a wide variety of materials and equipment that are specifically tailored for each application. By managing our own manufacturing and distribution facility, we can maintain continuity of our supply chain, which means no overseas shipping delays within North America. We manufacture all our own epoxies, lining materials and certain specialty installation equipment. This allows us to ensure our patented materials are the highest quality, which we back up with a manufacturer's warranty on all our products.

But the materials are just the beginning. It is important for a potential contractor to understand there is a learning curve to installing CIPP. Make sure you are with a company that is prepared to support that growth through apprentice, journeyman and master classes, as well as field training and job support. We offer the kind of support that is essential for a business to continue its success long after the first couple of employees are trained.

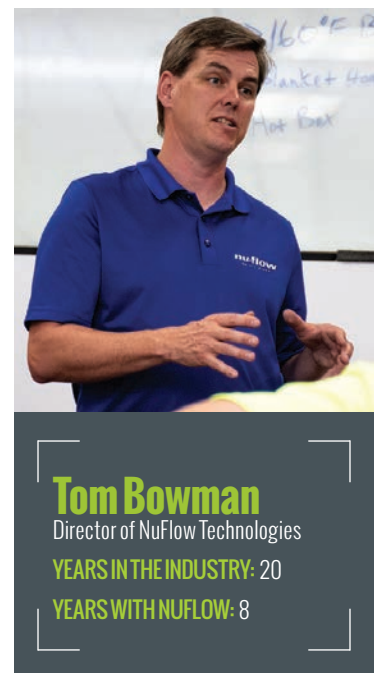
“Our systems provide a solid base of hands-on knowledge that makes the install process easy to execute in the field. **With that foundation, contractors can evolve with the market and continually build on their expertise.**”

Tom Bowman

**Cleaner:** How does your partnership/licensing program work? Is it a traditional franchise system?

**Bowman:** We have never used a franchise model. There are no franchise fees or branding requirements. Some of our contractors use the NuFlow name to increase their market awareness, but if someone wants to use the family-name business they have used for the last 50 years, we are all for that.

However, we do run things a bit different than other CIPP suppliers. We license contractors to use our technology. Ultimately NuFlow and our certified contractors are more successful when we maintain high quality standards, so we established a set of parameters for those who want to invest. Once a contractor has passed our initial training, they are certified to continue their journey in the trade. But just as it works in the plumbing industry, you build your skill to a master level over time with help and guidance along the way. At NuFlow, we have been developing a system to build strong pipe-lining tradesmen.



« NuFlow's signature precision push- or pull-in-place installation method provides control over the install for perfect positioning in the pipe.



**Cleaner:** What advice would you give businesses looking into becoming NuFlow installers?

**Bowman:** Talk to other NuFlow certified contractors. The best way to understand the challenges of the market is to talk to people who are in your industry. Ask a lot of questions: How can adding pipe lining to your business help you gain a competitive edge? How can you differentiate your business from your competitors, give more options to your clients and make more money in the end? What is the best way to get started? Find out about training and the initial buy-in. What support is offered once you are off and running in the field?

**Cleaner:** How do you see the pipe rehabilitation and repair industry evolving?

**Bowman:** As the pipe rehabilitation industry grows and the technology continues to evolve, we think there will be more involvement from governing bodies to ensure a higher level of quality control and quality deliverable to property owners. As industry veterans, we think it is important to represent the industry and get involved with governing bodies when necessary.

The recent UPC battle is a perfect example of a potential threat that almost terminated CIPP technology for rehabilitating cast iron pipes. That's why we think our standards are so important. We want to ensure CIPP technology remains viable and part of the solution for years to come.

There are many variables that come into play as the CIPP industry matures. Our systems provide a solid base of hands-on knowledge that makes the install process easy to execute in the field. With that foundation, contractors can evolve with the market and continually build on their expertise.

**Cleaner:** What's new for NuFlow in 2020? What can customers expect out of NuFlow in the future?

**Bowman:** We have two exciting new technologies we are introducing this year: NuCure CCUV (cold-cure UV) and Potable CIPP. Both technologies are game changers for CIPP.

For our NuCure CCUV, we partnered with Pro-Kanal to combine its double-helix light core with our new cold-cure UV resins. There are a ton of advantages for NuCure, but the biggest reason why it stands



➤ The NuFlow Annual Summit brings certified contractors from across North America together for training, support and camaraderie.

out is that the technology minimizes almost any risk of error. The liners activate in place in as little as 10 minutes and allow the contractor to wet-out on site or offsite. The resin itself has some of the highest heat resistance that the CIPP market has ever seen.

The other new technology we have coming out a little later in the year is Potable CIPP. This technology originated from our first and largest international partner, NuFlow Australasia. Potable CIPP, an extremely versatile, potable-approved lining system, can structurally repair high-pressure water mains in diameters as small as 2 inches, with minimal disruption. A solution like this for small-diameter pipe is a first in the CIPP market. The composite material, in combination with needle-punched geotextiles, creates a hybrid CIPP liner capable of handling high burst pressure and high external loads.

Along with releasing new technology, we will continue offering worldwide technical sales, training support and quality assurance programming. I'm not sure if I have said this enough yet, but proper installation is as important to our brand as the materials, so we put a lot of effort into building our partnerships and preparing them with what they need to succeed.

**Cleaner:** What do you want your customers to think of when they hear the name NuFlow?

**Bowman:** We want the NuFlow name to represent a highly capable and proud network of certified contractors. They can trust they are part of an organization that is dedicated to the expansion of the technology applications, as well as proper installation and education, and that's capable of handling their customer's ever-growing needs.

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# BEST OF THE DECADE

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**EDITOR'S NOTE:** This month's "Best of the Decade" first appeared in the July 2018 issue of *Cleaner* and has since been one of the most-read profile articles on Cleaner.com.



contractor  
**PROFILE**

# CAN-DO ATTITUDE



➤ Linda Hudek, owner and operator of LH Plumbing Services in Fairfield, Ohio.



Young plumber invests in the right relationships and equipment to build a successful drain cleaning business

By Ken Wysocky

Photography by Amy Voigt

There was a time when master plumber Linda Hudek, the owner of LH Plumbing Services in Fairfield, Ohio, owned only the bare minimum of draining cleaning equipment and subbed out larger jobs to local contractors she trusted.

Now the shoe is on the other foot, with nearly a dozen local plumbers hiring Hudek to handle their drain cleaning needs. Investing heavily in inspection cameras and other equipment has made her more efficient. It's also amped up her revenue and profit margins — a win-win situation if there ever was one.

"It was a no-brainer," says Hudek, 30, who started her business in 2010. "I saw an opportunity — the market was there. I was getting enough requests that I knew investing in cameras and jetting equipment would pay off.

"Not only are those machines huge moneymakers, they totally diversified my abilities and company," she continues. "I went from someone who was just barely into drain cleaning and subbing things out to being able to take care of almost any problem. I want to offer customers complete service."

Sure, the equipment represented a significant capital investment. But the financial results exemplify the old adage about the need to spend money to make money: She's posted two record quarters revenue-wise at the end of 2017 and the beginning of 2018. And she's on pace to double her revenue compared to 2015 and prior years.





✱ Linda Hudek uses a RIDGID SeeSnake microReel inspection system to assess a blockage in a commercial sewer line.

## FROM AGRICULTURE TO PIPE WRENCHES

Oddly enough, Hudek never planned on becoming a plumber/drain cleaner. In fact, she had a scholarship lined up to study agriculture at The Ohio State University. “I wanted to study horticulture and get into cut-flower farming,” she says.

Then fate intervened during the summer before her senior year in high school, when she worked for her father, John Hudek, a master plumber and the owner of J&H Mechanical Contractors in Somerville.

“After I graduated from high school, I went to work for him full time,” she explains. “I found I really liked working with my hands. I also liked the constant variety — the types of jobs and the people I met and worked with were never the same.

“I just enjoyed the controlled chaos,” she adds. “I knew I’d never be bored because there’s always a new challenge ... and you have to use your head and think every day because you’re always getting thrown into new situations where it’s basically sink or swim.”

While working full time for her father, she also attended night classes at Miami University of Ohio and earned a degree in small-business management, with a minor in real estate, in 2009. “Sometimes my dad’s employees would drop me off at school after work and I’d be covered in mud and janitors would get on me,” she recalls.

Hudek knows of several other female plumbers in Ohio. But anyone who thinks she became a plumber to become a poster child for breaking the industry’s glass ceiling is mistaken. “I didn’t become a plumber to prove a point,” she states. “Male or female doesn’t matter. I’m a good plumber who’s earned the respect of my

fellow plumbers and my customers. That’s what matters. My work speaks for itself.”

LH Plumbing Services’ Facebook page reflects that respect, with numerous testimonials from customers. A look at the site reveals nearly 2,000 likes and nothing but five-star reviews. “Linda is extremely knowledgeable and great to work with,” reads one comment. “When I was interviewing plumbers to install a tankless water heater, she was the only one who mentioned the specific code requirements or getting a permit and inspections. She did a great job at a reasonable price. Last Sunday morning, there was water spurting from a connector in my sump discharge pipe. I called her and she came over and fixed it that day. She’s the best!”

The company’s Facebook page also includes comments from other plumbers — even some from outside Ohio. In fact, she says a group of one-man shops in her area operate as friendly rather than cutthroat competitors. “We often work together and refer work to each other when we have too much work to handle,” she explains. “Most of us are very close, and we don’t talk badly about each other or steal each other’s customers. It works out very well.”

## EQUIPMENT MATTERS

To provide good customer service, Hudek runs a Chevrolet Silverado 3500 pickup truck that tows a 14-foot enclosed trailer built by Homesteader Trailers. The pickup carries a saddle toolbox and a Pack Rat pullout drawer unit from Weather Guard.

For drain cleaning, which generates about 45% of the company’s revenue, Hudek relies on a RIDGID K-1500 sectional machine, Jetters Northwest 4009 Brute water jetter (4,000 psi at 9



## BEST OF THE DECADE



▲ Linda Hudek, owner and operator of LH Plumbing unspools hose from her jetter (Jetters Northwest) to clean a sewer line at a commercial property.

gpm) skid-mounted inside the trailer, Speedroooter drum machine made by General Pipe Cleaners and Flex Shaft drain cleaning cable made by Clog Squad. Hudek uses cutter heads and chain knockers made by Seweri Finland Oy and also owns two inspection cameras made by RIDGID (a SeeSnake nanoReel and SeeSnake microReel), plus an Opticam unit manufactured by Insight Vision Cameras.

Hudek also invested in a PipePatch trenchless spot repair pipe rehab system made by Source One Environmental. For plumbing, she relies on power tools built by Milwaukee Tool, RIDGID and Hilti.

Starting out from scratch, back when she didn't have anywhere near as much equipment as she does now, wasn't easy. Hudek says she struggled early on, subsisting on jobs passed to her by her father or working as a subcontractor for other plumbers. To make matters worse, she struck out on her own right at the height of the great economic recession — not exactly opportune timing.

"I was able to pay my bills and that was about it," she says. "I tried some coupon magazines for advertising, but I'd never do that again. All I got were calls from people who were looking for cheap work and didn't want to pay anything. So for the most part, I relied on word-of-mouth referrals and it kind of blossomed from there."

## CAN-DO ATTITUDE PAYS OFF

Just as important as her skills during those years was her attitude, reflected by her company's short-and-sweet slogan: Can do. Hudek picked that up from her father, who was a Seabee in the U.S. Navy. (The nickname Seabees stems from the acronym for the group's formal name, the United States Naval Construction Battalions.)

"Can do" is the Seabee's motto, along with, "The difficult we do now; the impossible takes a little longer." Hudek says her father started calling her the "can-do kid" when she was a youngster. "He still calls me that, and it means a lot to me," she says.

Hudek credits other factors for her success, too. "No. 1 is Jesus Christ, who's blessed me with the abilities to do what I'm able to do. Then there's my Dad, who taught me about determination.

"I remember when I first started working for him, I messed something up with a backhoe," she continues. "I tried to grade out an area and made an absolute mess of it. I cried in front of him. He said, 'Why are you crying? That's not going to fix anything!' He taught me that without determination and resilience, I wasn't going to go very far in this business.

Providing good customer service has also paid big dividends. That includes doing the little things right, like leaving a clean job site when she completes a job. "I really go the extra mile to clean things up," she says. Educating customers has also been critical, she says, noting that it's important to explain to customers what they're getting for their money.

She also uses small-ball marketing techniques, such as giving customers refrigerator magnets and pens with her company's name on them.

## THE PRICE IS RIGHT

But here's perhaps one of the most important lessons she's learned over the years: Building a business by trying to be the lowest-cost plumber in town is a recipe for failure. Hudek concedes that early in her career, she charged less than she should have, for

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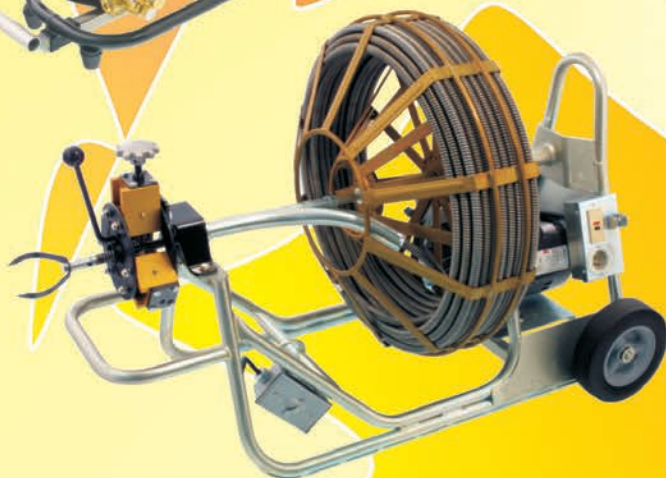
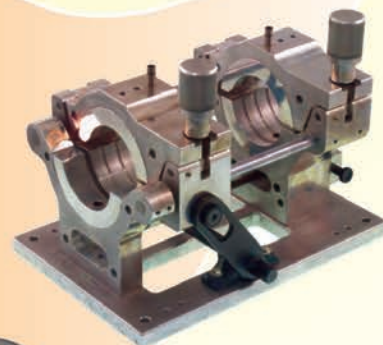
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## BEST OF THE DECADE

two primary reasons. First of all, the economy was bad. Second, most of her customers at the time were commercial accounts that she felt she couldn't afford to lose.

"I was afraid I wouldn't have enough work, so I'd cave in to general contractors and customers," she recalls. "I felt that I needed to keep these people happy because they're my bread and butter and without them, I'd fail."

The tipping point came during a service call for a commercial contractor. When Hudek arrived at the company to perform backflow tests, she encountered another plumbing company's truck on site. Turns out they were completing a project on which Hudek had bid.

"I learned that they beat my price by \$100," she says. "I'd bent over backward many times over the years to accommodate that customer. But in the end, there was no loyalty to me — they were always going to go with the cheapest guy, no matter how long I worked for them. The relationship didn't matter."

As she finished the job, Hudek realized that this customer would continually be slow to pay and quick to complain about pricing. So she gave the stack of backflow reports to a receptionist and told her to tell the owner she didn't want to work for the company anymore. "From then on, I started working for people who respected me and respected my work," she explains. "Now I tell people I'm not a cheap plumber and I don't do cheap work."

"I explain to them that they're paying me for my expensive equipment investments and my knowledge and expertise," she continues. "The people who buy into that concept are my customers. Everyone else can go pound sand. Learning to say no to those kinds of customers was huge. And I'm always trying to get other plumbers to realize they have to stop prostrating themselves before these guys like they're our lords and masters."

As for the future, Hudek says hiring a technician is the only way she could significantly further grow her business, given that she is usually working at full capacity. But managing employees can be stressful, so she plans to keep enjoying the freedom that comes from running a one-person shop, not to mention the great profit margins.

"In three to five years, I might have employees," she says. "Then again, maybe not. But I don't mind the unknown." **c**

## BETTER WITH TIME

# 2020

In 2020, Linda Hudek is still running LH Plumbing Services as a one-woman show, although she's made a few adjustments.

She hasn't brought any other plumbers into the business, but she also hasn't ruled it out for the future.

"I did finally hire a part-time bookkeeper — my own stubbornness prevented me from doing so before. But I'm over it. Paying a bookkeeper costs far less money than paying myself to do so. I've also come out of the Stone Age and moved to digital notes and scheduling. I used to write everything down in a planner — again, my own stubbornness costing me time and money."

She's made some improvements to her office space and shop: adding a small kitchen, which will also act as a break room if she does add employees someday, and putting new shelving in the shop area to organize her tools and supplies.

Hudek is still the go-to for many local plumbers in her area of Ohio who don't own the equipment or wish to pursue drain cleaning. Half of her calls are related to drain cleaning, locating and inspection. She purchased a new RIDGID 200-foot Mini Reel and Versa monitor and a second RIDGID L100 microReel at the end of June to keep up with the high demand for inspection work. The 200-foot Insight Vision Camera Opticam she has will remain her backup camera setup.

Networking and developing relationships with other plumbers has never been more important than it is now, Hudek says, especially for smaller plumbing operations. "As smaller businesses are selling out to larger outfits and nationwide franchises, many customers are seeking small companies to work with and want to support locally owned and operated companies. They also like the personal touches that smaller plumbing companies — one-man shops like mine or shops with under 10 plumbers — offer."

Hudek keeps up her relationships with other local plumbers through simple phone calls, Cincinnati Master Plumbers Association meetings and gatherings, or brunch when they can make time. "I am also now vice president of the Ohio PHCC. And when I am overwhelmed with work, I refer it out to other plumbers, and they in turn do the same for me. It's a win-win situation. We aren't competitors; we're allies. And in doing so, it helps keep business local and betters our local economy. It also helps to keep the market competitive and diversified, instead of all the smaller guys selling out to the larger companies."

One change no one expected for 2020 was dealing with the emergence of COVID-19. Hudek says her phone was fairly quiet for about a week and a half at the start of the pandemic. "But for the majority of the time, work has been steady and sometimes extremely busy. Some specialty material items coming from states with stricter shutdowns have taken longer to arrive. Supply house hours have shortened. Prices have gone up on some materials, while others have dropped. All things considered, things have panned out much better than I anticipated."

One other exciting update for Hudek is a more personal one. "I'm also engaged to the most wonderful man and we plan on marrying, Lord willing, in October."





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# A Flexible Fix

Irregular-shaped or badly damaged pipes are no problem for this pliable, steam-heated liner

By Ken Wysocky

**A** pipe lining system that conforms to any host pipe shape — square, round, ovate and anything in between — might sound highly implausible. But it's a reality at Clearwater Structures, a civil construction firm in Ontario that has embraced Thermoform pipe lining technology from Warrior Trenchless Solutions.

The company, based in Ajax, just east of Toronto, saw that Thermoform's shape-shifting capabilities would be an invaluable asset on projects where more conventional pipe rehab technologies can't be used. Furthermore, Thermoform is a chemically inert PVC product, which makes it more eco-friendly, says Mark Philpott, who co-owns Clearwater Structures with Mike Ciceri.

Founded in 2005, Clearwater Structures employs about 200 people and mainly serves customers throughout the province of Ontario. Its core markets are municipal sewer rehab, bridge construction and steel fabrication.

The company used to primarily rely on cured-in-place felt liners and HDPE lining, where a rigid pipe is pulled into a leaking host pipe. Any annular space between the replacement pipe and the host pipe is filled with grout. But sometimes these rigid pipes can't pass through a deformed culvert, for example, Philpott explains.

"Thermoform can be used even if a pipe has deformities and deflections. It conforms to the exact shape of the host pipe.

"We've used it in projects where pipes were bent or deformed, which would prevent a rigid round pipe from ever getting through. It's a very good product for damaged pipes located in places where you can't excavate to make repairs."

## FLEXIBLE BUT STRONG

Thermoform pipe is made the same way as conventional PVC pipe, except that while it's still hot during the extrusion process, it's folded into a C or H shape and then coiled onto reels in whatever lengths are required. It's available in diameters ranging from 4 to 36 inches, and the wall thickness is variable, depending on the application.

✔ A crew from Clearwater Structures uses a Thermoform pipe lining system to rehab a culvert that runs under a highway near Belleville, Ontario.



To install Thermoform pipe, it's first heated with steam to make it flexible and pliable. To do this, Clearwater Structures fabricated a system that's affixed to a 24-foot-long flatbed trailer; it includes a powerful hydraulic system to turn the large reels that hold the pipe and an enclosure into which the steam is pumped until it reaches about 200 degrees F, Philpott says.

After the pipe is pliable enough, it's hooked to a cable that's attached to a winch

CONTINUED >>

## CLEARWATER STRUCTURES INC.

AJAX, ONTARIO

**TECHNOLOGY:** Thermoform PVC pipe lining system from Warrior Trenchless Solutions

**FUNCTION:** Rehabbing 4- to 36-inch-diameter pipes

**FEATURES:** Steam heat makes liner pliable enough to conform to any host pipe shape; chemically inert product, which makes it more eco-friendly; can combat wrinkles and other installation issues by reheating the liner to make it pliable enough to adjust

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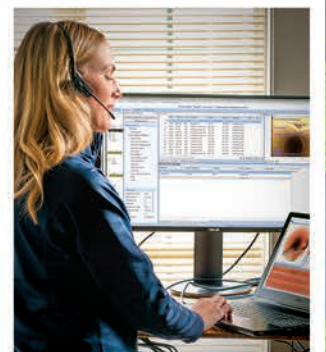




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located downstream. Clearwater Structures uses a winch made by HammerHead Trenchless and boilers made by Sioux and Easy Kleen Pressure Systems. The winch then pulls the pipe through the host pipe at a speed of about 100 feet per minute.

When it is in place, it's important to relax the liner prior to the final processing. This is achieved by warming and cooling the material, which removes any tension or stretch that has occurred during the pulling procedure. So workers install steam plugs on each end of the liner and pump in steam to make it pliable enough to inflate. Typically, the installation process requires several such heating/cooling cycles. When the line is fully pliable, restricting the exhaust of the steam creates a backpressure that allows the material to form tightly to the shape and size of the host pipe. This process could take three to four hours, depending on the ambient temperature outside, Philpott notes.

After the heating and cooling cycles are completed, the Clearwater Structures uses an Aries Industries Pathfinder System to inspect the pipe.

"Thermoform can be used even if a pipe has deformities and deflections. It conforms to the exact shape of the host pipe."

Mark Philpott

## NOT PERFECT? NO PROBLEM

Thermoform offers another key benefit: If the installation isn't quite right, a crew can reheat the liner, then fix an error while the liner is pliable, Philpott says.

That capability came in handy during Clearwater Structures' first Thermoform installation, where the liner twisted a bit and left a wrinkle. Workers merely reheated the liner and rotated it slightly by hand, eliminating the wrinkle. "We've never had that particular problem again."

The largest and longest lining project Clearwater Structures has tackled so far involved a 450-foot-long, 24-inch-diameter storm sewer culvert. Buried in the middle of a freeway median, the culvert was accessible only via two manholes, which required the liner to make a sharp, 90-degree bend inside each manhole in order to enter the host pipe.

The company had just 10 hours to do the job before a closed lane of traffic was scheduled to reopen. When the crew couldn't get through the required heating cycles, Thermoform's flexibility came into play once again.

"After we ran out of time, we just let the liner collapse inside the host pipe," Philpott says. "Then we went back the following night and finished the job. You can't do that with a felt liner. When you run out of time with a felt liner, you've got a problem."

## SPEED VERSUS VALUE

Philpott says that sometimes Thermoform lining projects can take longer compared to using conventional liners. They also take more care and skill to install; as such, the company relies heavily on Ryan Hack, a lining superintendent who's "one of the best," Philpott says.

"It can be tricky to work with. But the true value of this particular technology is that you can use it in so many different pipe conditions. Plus, there's no release of any harmful chemicals during the installation process."

So far, Clearwater Structures has installed more than 8,000 feet of Thermoform — primarily inside culvert pipes that run under highways — since it first invested in the technology in 2018.

But Philpott says the company is also trying to use it in municipal markets.

"We've already used Thermoform to line smaller, 10-inch-diameter sanitary sewer pipes for the city of Toronto. Because it's a relatively new product, a lot of municipalities haven't used it yet. It costs a little more than felt liners. But Thermoform also has a longer life span.

"It's hard to convince municipalities to spend more money upfront on capital costs in exchange for lower life-cycle costs. But it's emerging technology and a very good product. I believe it's the product of the future." **c**

## SHOW US THE MONEY (MACHINE)

Money Machines, a feature in *Cleaner*, reports on innovative work vehicles that help contractors operate more efficiently, satisfy customers and earn more profit. We'd like to know about your Money Machine — be it a service van, camera truck, jetting rig, vacuum unit or any vehicle that really helps drive your business. To nominate your vehicle for a feature in this column, send an email to [editor@cleaner.com](mailto:editor@cleaner.com). Tell us briefly but specifically what features make it a great producer. And send a picture — because appearance counts. We look forward to seeing your Money Machine.



# Cleaner INSPECTION & LOCATION

Contractors in the inspection and location industry demand quality products.

See how these partnerships ensure success in this special *Cleaner* Inspection & Location section.

Allan J. Coleman Co. ....	48, 57
CPI Products / Cavallero Plastics .....	56
CUES, Inc.....	46
Electric Eel Mfg. ....	54
Envirosight LLC .....	45
EPL Solutions Inc.....	59
General Pipe Cleaners, div. of General Wire Spring.....	44
INSPECTORCAMERAS.COM.....	61
KEG Technologies, Inc.....	59
Pearpoint Inc.....	52
Ratech Electronics, Ltd.....	58
SECON .....	61
Subsite Electronics .....	50
Vivax-Metrotech Corp. ....	55





# Digital Pipe Locator Precisely Pinpoints Problems, Avoiding Costly Digs to Find Breaks or Blockages

**“W**e have a great name to protect,” says Tim Rogers, service tech in charge of sewer and drain cleaning operations for Missouri’s R-Mech Heating Cooling & Plumbing. “That’s why we carefully research and choose all our equipment.”

An Angie’s List Super Service Award winner for four straight years, R-Mech has forged a reputation for professional excellence throughout the Kansas City, Missouri, metro area. That’s because they focus on expert service for every residential and commercial customer.

“People don’t want lawns and driveways needlessly torn up trying to find problems,” Rogers adds. “Quickly locating troubles is job No. 1.”

And that’s why R-Mech’s video inspection services count on the Hot Spot pipe locator from General Pipe Cleaners.

## SUPERIOR ACCURACY AND VERSATILITY

Hot Spot offers durability, accuracy and reliability. General Pipe Cleaners’ pipe locator lets plumbing and drain cleaning professionals precisely pinpoint problems — without unnecessarily destroying pavement or landscaping to find breaks or blockages.

“I use Hot Spot 10 times a week,” Rogers notes. “And it’s dead-on-the-money — 100% of the time.”

Superb for all plumbing and facility-maintenance needs, the versatile Hot Spot eliminates guesswork when inspecting and tracing sewer lines and drainlines, septic tanks, active power lines and buried utilities.

“I’ve used Hot Spot on gas lines and waterlines with excellent accuracy,” Rogers adds. “No problems, ‘ghosts’ or guessing.”

That sort of precision helps buttress R-Mech’s professional image. “With competitive locators, I’d have to walk a complicated crisscross pattern, spending 10 to 15 minutes just to find a problem,” he says. “But Hot Spot takes me right to troubles. I simply follow on-screen arrows.”

## QUICK, SIMPLE, INTUITIVE OPERATION

With Hot Spot, even novice operators can enjoy rapid results.

“I watched the General Pipe Cleaners video that came with our

Hot Spot,” Rogers says. “And I was able to use it right from the get-go. I was very pleased!”

There’s no need to decipher numbers and bar graphs and no juggling multiple tracking screens. The simple, menu-based interface makes Hot Spot easier to use than other locators.

Common workplace abuse can’t compromise General Pipe Cleaners’ tough tool either. Rated at IP65, Hot Spot is dustproof, as well as dirt and water resistant. It aced the 1-meter drop test, and its screen passed the 18-inch steel ball drop test. Hot Spot also offers superior battery life. The automatic shutdown feature saves power, and the USB port lets users upgrade software or grab screen captures.

## PART OF A TOTAL SEWER CAMERA SOLUTION

The Hot Spot pipe locator perfectly augments R-Mech’s Gen-Eye sewer camera system. General Pipe Cleaners’ popular range includes the compact, lightweight Gen-Eye X-POD and Micro-Scope2 systems with USB ports to record video inspections to flash drives. Some models also feature Wi-Fi capability. Each combines camera, reel and monitor into one compact, convenient package. Features include a self-leveling camera, bright LCD color monitor, rugged construction, one-touch recording, digital zoom, voice-over capability, date and time stamp, and flash drive capacity indicator.

## VERSATILE, RUGGED PERFORMER

Hot Spot has helped R-Mech maintain its reputation for sewer and drain cleaning excellence. The product lets R-Mech fix problems faster and get more jobs done in less time — enhancing its professional reputation.

“Since getting Hot Spot, we’ve never had to make a second dig or cut multiple holes. It’s been dead-on every time,” Rogers says. “It’s a highly impressive addition to our professional equipment arsenal.”



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## The New Standard for Lateral Launch

**T**he new ROVVER X SAT II lateral launch inspection crawler from EnviroSight finds gas line cross bores and illicit flows with speed and versatility. Redesigned from the ground up, it offers unprecedented range and speed, powerful aiming and launching mechanisms, and three onboard cameras.

### EXTENDED SPEED AND RANGE

The ROVVER X SAT II is engineered to perform cross-bore inspections faster and farther. Its steerable eight-wheel-drive drivetrain reaches crawl speeds of 98 fpm with a range of 984 feet, and the camera head launches 147 feet into laterals at up to 23 fpm. This means the ROVVER X SAT II launches twice as fast and 50% farther than the previous model. With quicker inspections, you succeed in accomplishing more per deployment and more per hour.

### BOOSTED PRODUCTIVITY

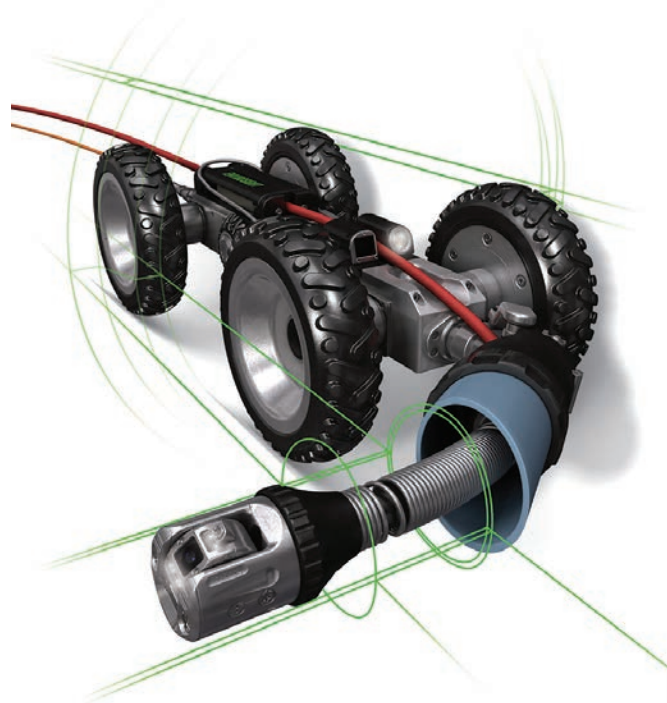
The ROVVER X SAT II works faster and more efficiently so you can meet quotas on budget and on time. Its new, patent-pending belt drive minimizes pushrod wear and tear and increases uptime and productivity. There are no abrasive wheels to shred your pushrod — and the mechanism is designed for easy cleaning and toolless belt changes in the field. When your team spends less time on maintenance, it has more time for conducting sewer inspections.

### POWERFUL TRACTION AND AGILITY

With steerable eight-wheel drive, ROVVER X SAT II equips you to maneuver past mainline obstacles like debris, sludge, roots, offsets and protruding taps. Quickly swap out rubber, abrasive and carbide wheel options to maximize traction in a wide range of pipe conditions and materials.

### OUTSTANDING VERSATILITY

The ROVVER X SAT II adapts to challenging and varied underground environments. Its wheels can be swapped without tools, and launch tube extensions can be custom-cut from standard PVC tubes to address challenging lateral geometries. All told, it offers launch capabilities in pipes from 6 to 80 inches in diameter. The crawler's unique hinged body bends through vertical accesses as narrow as 12.5 inches in diameter and locks rigid when not needed.



### LOWER COST OF OWNERSHIP

The patent-pending, belt-driven mechanism pushes the launch rod with maximum force and minimum wear. The design, which is easy to clean and has field-replaceable belts, is intended to increase uptime and keep maintenance costs low.

### ENHANCED INSIGHT

There's little you'll miss with the ROVVER X SAT II's three onboard cameras:

1. A launch camera with 360-degree pan articulation and plus-150-degree and minus-30-degree tilt
2. A 5-megapixel aiming camera that offers digital pan, tilt and zoom capability for pinpoint launching in any size line
3. A rear-facing camera to help manage cable during reverse crawl

Other built-in sensors monitor pressure, inclination and travel distance. Twin sonde transmitters allow accurate location of crawler and launch camera.

Whether you're locating dangerous cross bores or identifying structural defects, EnviroSight is putting you in the driver's seat for the most efficient, dynamic sewer inspection experience possible.



ROVVER X SAT II is just one of many innovative sewer inspection solutions offered by **EnviroSight**, which designs equipment to serve the needs of municipalities, contractors, departments of transportation and civil/environmental engineers. EnviroSight is a full-service manufacturer of robotic sewer inspection crawlers, zoom cameras, push cameras, inspection reporting and asset management software, and inspection vehicles. EnviroSight is committed to ongoing innovation, delivering products that enhance user productivity and inspection detail. EnviroSight serves customers through a trained network of regional sales partners who deliver localized support and expertise with rapid turnaround.

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# Innovative Manhole Inspection Technology

**T**he CUES SPiDER scanner is the only wireless, color, manhole inspection technology in the industry with a lightweight and compact form, according to Pierre Mikhail, director of the CUES Manhole Inspection Division.

“The SPiDER scanner provides a new outlook on how manhole data is collected and applied,” Mikhail says. “While other cameras and inspection devices use a payout reel to determine how deep the camera is in a manhole, the 40-pound, tetherless, self-contained SPiDER typically is deployed using a telescopic mast or tripod for stability.



“It is operated with a tablet computer that controls the scanners and lights. This technology frees manhole scanning from problems associated with inaccurate, poorly calibrated cable counters and poorly managed cables. SPiDER does not require a truck or data/power cable for operational use. Scanning data is recorded on the camera unit and not on the tablet.”

SPiDER collects millions of 3D points during each manhole scan that provides engineering and survey quality information about manhole geometry and condition. Information gathered can be used for structural assessment, pre- and post-rehabilitation analysis, hydrological surveys and general condition assessment.

SPiDER produces 3D, textured point cloud renderings of manhole geometry to provide 3D visualization that can be imported into a wide range of 3D viewers and delivered in several file formats:

- 3D MPEG video (MPG)
- Point cloud (PLY), which can be converted to surface model (STL), CAD model (DXF) and virtual model (OBJ)
- Manhole report using your preferred manhole inspection software
- 190 degree field-of-view live video stream, an ideal tool for infiltration and inflow studies, which depend on live video to detect moving water

SPiDER also produces a variance report between two scans, resulting in a heat-map type of output to evaluate how much the structure has varied between scans. This makes SPiDER the first tool available to assess the quality of rehabilitation in vertical structures.

In addition, the SPiDER and other CUES manhole inspection equipment can be used with a CUES Manhole Inspection Vehicle, or MIV. Use CUES MIVs to determine where to perform rehab and CCTV inspections and to reduce costs and save time by prescreening pipeline conditions during the manhole inspection — up to 40 manholes per day. CUES MIVs eliminate the picture quality and production limitations of traditional hand-held, cable or tripod manhole inspection systems.

The CUES MIV is designed to operate all CUES manhole cameras with a user-friendly, interchangeable mounting bracket. The MIV is the only vehicle in the industry that can inspect and scan most types of structures including sanitary/storm manholes (up to 50 feet deep), sanitary/storm pipelines (6 to 120 inches in diameter), lift stations, gravity interceptor pipelines (without bypass pumping), vaults, outfalls and more.



As the world's leading manufacturer of water, wastewater and stormwater inspection equipment, **CUES** provides the necessary tools for both pipeline inspection and repair. For 50-plus years, CUES has manufactured the most rugged and reliable pipeline inspection equipment in the industry. CUES also offers a range of advanced systems, such as SONAR, LIDAR and LASER PROFILING, for those requiring more detailed inspection data.

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## Full Line of Tools Helps Drain Cleaner Diversify

**G**oing the extra mile for Koko Drains in South Pasadena, California, means providing better service than it is paid to render, doing it all the time and working with a pleasant, pleasing attitude. To help it meet these standards, the company uses cameras at every job.

“I always run the camera to make sure the line is in good standing,” says Krikor “Koko” Chiranian, owner of Koko Drains. “We can also have a homeowner standing there watching the monitor as the work is being done, making it a lot easier to explain issues and the best way to address the problem.”

Most recently the Koko Drains team, who specializes in drain and sewer cleaning, has been using the SeeSnake Mini Camera with TruSense for inspections.

“They [cameras] are definitely the best in my opinion,” Chiranian says. “The quality of the picture from the cameras and the durability stand out. You have to be really tough and rough to break them. A lot of the cameras in the past would try to push through a hard root or grease blockage and wouldn’t hold up.”

Chiranian, who purchased the TruSense cameras from Allan J. Coleman after seeing them demo’d by RIDGID at the Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, notes that one of the main things that stood out to him was the high dynamic range.

“Being able to see 3 to 4 feet out in front of you — that was really appealing to me and others at the show,” he says.

SeeSnake cameras with TruSense technology include a high dynamic range image sensor that expands the camera’s dynamic range, allowing a greater ratio of bright and dark areas to be displayed in the same image at the same time without reducing visibility. TiltSense, an on-camera inclinometer that measures the camera’s angle, was another standout feature.

“It’s very nice to know in a pipe full of sewage. Even if we don’t have a picture from the camera, we can still know if there’s a drop,” he says.



Going with the mini reel option, Chiranian says they’ve found it can be carried almost anywhere on the job site, including up on roofs. Additionally, the mini reel lets them get through all types of pipe sizes, from 2-inch all the way up to 8-inch pipe.

They pair their mini reel with the CS12x digital reporting monitor for fast job site setup.

“All you have to do is plug the camera in with the monitor and thread it in,” Chiranian says. Koko Drains also relies on RIDGID FlexShaft drain cleaning machines and the NaviTrack Scout locator to provide quality work, every time.

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Allan J. Coleman has been in business since 1905. The company is a distributor of RIDGID tools, Jetters Northwest equipment and StoneAge sewer jetting nozzles. It also carries a wide variety of products from other manufacturers for the sewer and drain cleaning industry and other tool manufacturer’s products. Allan J. Coleman is the oldest name in the business.

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## Subsite Electronics Utility Inspection Systems Hit the Mark

Subsite Electronics utility inspection equipment is ideal for pipelines too small to allow man entry, including water and wastewater collections and conveyance systems. Solutions include CCTV, sonar profiling, 3D and point cloud data capture.

Mainline inspection equipment is routinely used by municipalities, water and sewer districts and contractors for inspecting 6-inch and larger sanitary storm drain sewer pipelines. Smaller pipelines, 4 inch and less, are typically inspected with a push camera system and are accessed from the sewer clean-out or other entry points inside the house.

During an inspection, data collection software is used to identify the assets being inspected, as well as log observations of defects and maintenance issues. The Pipeline Assessment and Certification Program has a standard coding system developed by the National Association of Sewer Service Companies. This tool is used for gathering common data that can be sorted by type of defect and severity of defect, and it allows an engineer to easily identify what pipes need to be addressed immediately and how to address the defect.

There are a few basic components of a CCTV pipe inspection system:

- Camera or camera/transporter unit
- Power supply/control unit
- Reel and cable system

Much of Subsite's CCTV equipment is built around single-conductor technology, which accommodates all power feed and command functions in a single steel-wrapped cable to make the equipment less bulky, easier to control and far more durable than typical multiconductor technology. The single-conductor technology is a version of the same coaxial cable that reliably delivers hundreds of TV channels, high-speed internet, voice communication and more to millions of households and businesses across America. The advantages over competitive multiconductor cable are clear:

- Video signal quality is not affected by the length of cable, unlike multiconductor technology.
- Single-conductor cables offer a life expectancy that is at least three times longer than that of any multiconductor cable.
- Single-conductor cable has a breaking strength greater than 5,000 pounds, whereas typical multiconductor cable has a breaking strength of 2,000 pounds or less.



- Single-conductor cable is simple to maintain, and the end connectors can be replaced in a matter of minutes. Multiconductor cable typically requires several hours of labor and advanced technical skills to splice or troubleshoot multiple wires.

To achieve maximum performance from the inspection equipment, quality training is a must. Factory trainers or certified trainers are the best solution to receive proper training for operation and maintenance of the equipment. Depending on the user's experience, a mainline system training takes one to two days, and if additional equipment was purchased like a float system or a lateral launch system, an additional one to two days may be needed.



Subsite Electronics is committed to providing underground construction professionals the most comprehensive suite of electronic products in the industry, including utility locators, horizontal directional drilling guidance equipment, equipment machine controls, and CCTV remote inspection and monitoring cameras and accessories. By using innovative technologies, extensive market feedback and outstanding customer support, Subsite has established itself as the premier source of electronic technology to support the installation, maintenance and inspection of underground pipe and cable.

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## Push Camera a Fit for Multiple Applications

The new and advanced Pearpoint flexiprobe P540c push camera inspection system is compatible with the entire CUES inspection platform that includes GraniteNet software, sewer and storm mainline inspection equipment, and robotic lateral launch for pre- and post-inspection of laterals.

The Pearpoint flexiprobe P540c system stands out by integrating all of the most sought-after features including survey reporting, video titling, digital recording and portability into an easy-to-use, intuitive package. This lightweight system includes large, durable wheels for easy portability and a balanced footprint for stability. Manufactured for rugged reliability and designed to handle rigorous field use, the flexiprobe P540c is the most versatile push system available in the market today.



The flexiprobe P540c system is managed by the most powerful and intuitive controller ever designed. With its quick boot up, intuitive user interface and high-definition, 10.1-inch TFT display, the flexiprobe P540c lets you concentrate on the job at hand. The controller simplifies operations by automatically creating a survey report, allowing the technician to focus on inspection tasks. Use GraniteNet software to integrate the flexiprobe P540c with asset inspection, decision support and work management programs. The onboard Wi-Fi allows the technician to share reports via email or Dropbox, all while still on site; or simply copy to a flash memory stick in one of the three USB ports. The 128GB internal memory allows for more than two months' video recording in typical usage. The ruggedized, IP55-rated controller with built-in rechargeable battery provides reliability and usability in the most challenging environments.

The controller is capable of operating Pearpoint's full line of pushrods, so as needs change, one can simply purchase a new reel without a new command module, which could save thousands of dollars. Pearpoint flexiprobe P540c series pushrods consist of the P541 plumber reel, P541 mini reel, P542 reel and P543 reel system. Each system serves unique applications, but the line covers a majority of inspection needs within the sewer industry today, from 1 1/2- to 16-inch pipe.

There are two different cameras to choose from for inspections: a 1-inch straight-view camera and 2-inch self-leveling camera. The camera heads are highly engineered and are capable of withstanding water pressure of approximately 160 psi or more than 300 feet underwater.

## PEARPOINT®

The **Pearpoint** range of products is designed for pipeline inspection and is used for municipal, industrial, manufacturing, petrochemical and residential applications. Pearpoint's fully modular commercial range, designed to work in the treacherous terrain of active foul water sewers, delivers centered pipeline inspection capabilities from 1 1/4-inch pipes up to 60-inch main drains. With headquarters and manufacturing located in Orlando, Florida, Pearpoint has 70,000-plus square feet of dedicated production capacity with approximately 400 employees to serve and support customers. Additional facilities include Bristol, England, with stocking warehouses and service personnel in California, Georgia, Wisconsin, Oregon and Toronto.

800-688-8094 | [www.pearpoint.sales.us@spx.com](mailto:www.pearpoint.sales.us@spx.com) | [www.pearpoint.com](http://www.pearpoint.com)





## flexiprobe™ P540c



The flexiprobe P540c system is managed by the most powerful and intuitive Controller ever designed by Pearpoint.





## Pipeline Inspection Camera System Adds New Standard Feature

The Electric Eel eCAM Ace 2 SL pipeline inspection camera system is a user-friendly way to inspect pipelines for maintenance or troubleshooting issues. A new battery cradle accepts a Milwaukee M18 or equivalent battery (battery not included). This new standard feature adds convenience for the operator and allows easy access to power for remote field-work or where electricity is not available. Battery life is six to seven hours.

Features include one-touch USB recording, on-screen footage counter, wheels for easy transport and maneuverability, and a built-in battery cradle. The package also includes a rugged, stainless steel-housed, 1.68-inch-diameter, self-leveling color camera for inspecting 3- to 10-inch lines, a sapphire lens with 20 LED light

ring and a high-resolution CCD element. The flexible camera spring is designed to navigate 3-inch P-traps. An auto iris adjusts lighting automatically. It includes an industry-standard 512 Hz sonde, and a 5.4-inch LCD monitor with anti-reflection film for optimal viewing in sunlight and encased in an anodized aluminum housing mounted to the reel. It is powered by a 120-volt AC supply or built-in battery cradle. It comes with a protective acrylic, anti-glare monitor shield and has a video output jack for optional recording. It comes standard with 200 feet of braided fiberglass premium 1/2-inch-diameter pushrod. It has a secure-locking reel brake and heavy-duty screen cover.



Electric Eel, based in Springfield, Ohio, since 1939, produces a full line of drain and sewer cleaning machines, including sectional units, drum machines and a full line of pipeline inspection systems.

800-833-1212 | [info@electriceel.com](mailto:info@electriceel.com) | [www.electriceel.com](http://www.electriceel.com)

**NEW**

### A built-in battery cradle\* is now standard on all Electric Eel eCAM Camera Systems!



This new standard feature adds convenience for the operator and allows easy access to power for remote location work or where electricity is not available. Battery life is 6-7 hours when fully charged. eCAM Pipeline Inspection Cameras are professionally engineered to inspect 1 1/2" to 10" diameter pipelines. A user friendly way to quickly inspect pipelines for maintenance or troubleshooting issues. Visit our website to check out all the eCAM units.

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Pro 2

**1-800-833-1212**

[www.electriceel.com](http://www.electriceel.com)



## vCam-6 a Fit for a Wide Range of Inspections

The vCam-6 high-definition inspection camera from Vivax-Metrotech gives you the flexibility to cover a range of inspections, including municipal collections systems, residential plumbing, indoor commercial lines and lateral lines from 3 to 8 inches in diameter. The camera systems use the latest technology, packaged in a rugged, lightweight, compact profile and made specifically for the harsh conditions related to sewer lateral inspections. All Vivax-Metrotech camera systems are backed up by a full one-year warranty (extended warranty is an available option), on-site training and local support through the company's dealer network.

The vCam-6 HD feature-rich lateral and small mainline inspection camera system helps increase productivity and profitability. Built tough and reliable for everyday use, the versatile vCam-6 HD is a good fit for plumbers, contractors, home inspectors, building maintenance supervisors or anyone looking to inspect the interior of a pipe or duct. Create crisp, detailed HD video inspections in MP4 format with audio comments, text descriptions, footage, date and time stamps to submit to your customers without worry. Putting in

a full day's worth of work is easy with the five-hour battery life, with charging on-the-go and provided AC and DC charging leads.

A popular accessory for the vCam-6 system is the smaller Type-MX mini reel. The Type-MX reel is available in 100- or 150-foot lengths of 10 mm-diameter pushrod. The Type-MX mini reel's size allows it to be used in a more confined area and for special applications such as on a rooftop through a roof vent. The smaller-diameter pushrod used on the mini reel allows for inspection of smaller-diameter lines from 1 1/2 to 4 inches. Two high-resolution cameras are available for the Type-MX reel.



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**vCamMX-2 Mini Inspection System**

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- Locatable Pushrod
- High Resolution Cameras
- Direct USB Recording
- MP4 Recording format



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## Roller Skid Saves Downtime and Money

**P**ush cameras are a great tool and provide essential information before starting repairs. The downside is they are expensive and can be damaged by debris inside pipes. Many times even a simple repair like a cracked camera lens can cost more than \$1,000. The repairs also take the camera out of use for several days or even weeks.

The patented URS1 roller skid from CPI Products moves the camera off the bottom of the pipe and centers it in 6- to 14-inch pipes. Instead of impacting the walls and pushing into debris, the camera stays centered for an improved image and unobstructed lens.

The wheels on the URS1 reduce friction and enable the camera to also go farther down the pipe with less effort. The legs on the URS1 automatically extend to help it stay centered when pipe diameters change. The legs also retract when the retrieval rope is pulled, which reduces the size of the URS1, making it easier to retrieve and reducing stress on the camera cable. LED scuba lights

are also available to increase visibility. This can also enable push cameras to inspect larger pipes.

It is sold with a limited lifetime warranty and available to fit almost all push cameras. It's also designed and made in the USA by CPI Products.



Learn more about the URS1, other roller skids that go down to 3-inch pipes and professional kits and find your closest distributor at the **CPI Products** website, or call and ask for Mike, Kris or Bill. **413-443-0925** | [mtucker@cplac.com](mailto:mtucker@cplac.com) | [www.cplacproducts.com](http://www.cplacproducts.com)



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Designed and made In USA by CPI Products!



## Locator Consistently Finds Mark for Drain Cleaner

**F**or Koko Drains, drain and sewer cleaning specialists in South Pasadena, California, the RIDGID NaviTrack Scout locator has simplified pipe locating work.

"It definitely works better than other locators I've used," says Krikor "Koko" Chiranian, owner of Koko Drains. "You don't have to count crosshairs, and it makes finding pipe much easier."

Designed to solve the most demanding remote transmitter (sonde) locates, the NaviTrack Scout utilizes multidirectional antenna technology that sees the entire signal all of the time. It then verifies the locate position using a micro-mapping display to mark distinctive poles in front of and behind the target, ensuring an accurate locate.



"It's never failed us, and I don't think there's been a day that I've been here and we haven't used it," says Quinten May, a drain cleaning specialist for Koko Drains. "It's very useful and handy to have with us."

Chiranian echoes that sentiment. "The NaviTrack Scout is dead on. It's always on point," he says.

The company does both residential and commercial projects and has relied on RIDGID inspection, diagnostic and drain cleaning equipment for the past seven years.

### ALLAN J. COLEMAN SINCE 1905

Allan J. Coleman has been in business since 1905. The company is a distributor of RIDGID tools, Jetters Northwest equipment and StoneAge sewer jetting nozzles. It also carries a wide variety of products from other manufacturers for the sewer and drain cleaning industry and other tool manufacturer's products. Allan J. Coleman is the oldest name in the business.

773-728-2400 | [info@allanjcoleman.com](mailto:info@allanjcoleman.com) | [www.allanjcoleman.com](http://www.allanjcoleman.com)

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## Ratech Electronics' Ultra Micro Camera Offers Quality Microinspection

Inspecting kitchen sink drains and toilet P-traps requires extremely small equipment. Until recently, cameras small enough to fit into those areas didn't exist. However, as technology advances, cameras are getting not only more powerful, but also more compact. The 5/8-inch Ultra Micro from Ratech Electronics provides high-resolution inspections with a camera that is smaller than the face of a dime.

"It's the smallest camera we've ever manufactured," says Frank D'Andrea, Ratech president. "Every year customers are asking for smaller cameras. This delivers that."

Developed as a low-cost system, the Ultra Micro maintains the quality of Ratech's high-end units in a small, affordable package. The optimized color camera measures 5/8 inch in diameter by 1 inch in length. It is capable of inspecting pipe diameters as small as

1 inch or in 1 1/4-inch straight runs, and it will negotiate multiple bends in 2-inch pipes and services.

"It's a great fit for plumbers and drain cleaners, who need to get a camera into tight fixtures," D'Andrea says. "It's a fit for inspecting swimming pool lines too."



### CONTROL UNIT COMPATIBILITY

The camera is compatible with any of the company's control units and is available with a sun-readable, 10-inch LCD monitor and USB or SD recorder. Systems come in cable lengths of 100 feet.

The camera head includes an anti-scratch sapphire viewing lens and comes housed in a durable stainless steel housing with a centering skid. The push cable is a 0.33-inch-diameter Gel Rod — a premium cable that stops water migration into the cable once the cable is cut or nicked.



Ratech Electronics is a leader in the development and manufacturing of video pipeline inspection technology solutions for municipal, industrial and residential applications.

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MANUFACTURING SEWER CAMERAS SINCE 1981.



## INSPECTION & LOCATION

### Clean and Inspect at the Same Time

The KleenSight camera nozzle from KEG offers the ability to clean sewer and storm lines while recording upright-image video. Only a jetter hose connection is required, so there's no cables or wires. Files are stored on board and automatically date- and time-stamped. Apps are available for Apple iOS and Android devices, allowing the user to easily view, save with GPS location and upload videos to cloud services for sharing with co-workers or customers. It can clean lines from 6 to 36 inches and has stainless steel construction with 80 LED lights and eight cleaning jets with authentic KEG fluid mechanics. It comes with two rechargeable batteries, a charger, skids, expansion kit to 16 inches and a built-in Wi-Fi hot spot. Expansion kits are available. The system quickly determines the need for further line assessment with your crawler camera crew, saving time and money.

**KEG** At KEG, it's not good enough to have a great product; the company strives to give its customers and industry the highest-quality service possible. KEG conducts classes and field demonstrations at its location or yours, helping operators understand world-class techniques and making their job easier and safer. 866-595-0515 | sales@kegtechnologies.net | www.kegtechnologies.net



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## INSPECTION SYSTEMS

### KleenSight Camera Nozzle System

KleenSight Camera Nozzle System can be configured for large or small pipe sizes







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## INSPECTION & LOCATION

### EPL Solutions Offers a Full Range of Inspection Tools

EPL Solutions manufactures and sells high-quality camera systems for 1- to 12-inch lines. The systems fulfill a range of needs from inspecting copper lines to mainlines, offering products with established durability. Inspect drains and sewers with the Gvision camera system, choosing various reel sizes, including a mini reel with 150 feet of push cable and a self-leveling standard reel with up to 400 feet of push cable. With the Gvision monitor, view a clear, bright picture in direct sunlight and easily share videos with a client or save them to your database. EPL distributes the CamTronics MiniFlex, a flexible mini sewer camera that was specially developed for inspecting small-diameter pipes, drains and tubes. The SXR multifrequency receiver has proven ideal for locating underground pipes. Pair it with the TXR transmitter or SS20X sonde for locations 20-feet-plus deep.



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EPL Solutions is a solutions-based company for contractors. It started in 2007 as a small manufacturer of ruggedized diagnostic equipment.

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## SPOTLIGHT

### Smoking out plumbing leaks

By Tim Dobbins

Smoke blowers have changed the way plumbing faults and sources of odor in residential and commercial plumbing are located.

Over the past couple decades, the Superior 5-E electric smoke blower from Superior Signal has been updated and improved based on customer input to provide a lightweight and maintenance-free smoke blower that's sized for residential and commercial use.

"Professionals want a product that is cost-effective, simple to use, fast to produce results and easy to maintain — and that will last for many years of rugged use," says Jim Kovacs, president of Superior Signal. "That is exactly what we deliver with the 5-E smoke blower."

This blower creates an appropriate flow of air for testing a building's plumbing; and when paired with Superior Smoke candles, a highly visible, nontoxic smoke can easily be seen and traced.

"The 5-E is a great way to find building plumbing faults, easily locate sources of odors, test lateral and septic tanks for faults, and find or test leachfields. It can also be used for many other applications where a small-scale smoke test, leak test, airflow test or air visualization test is required," Kovacs says.

While the visible flow of air can be used to find various plumbing leaks, the blower is particularly effective in finding sources of odor. Because both smoke and odor are carried by the air, a smoke test illustrates the source of an odor problem so it can be properly resolved.

Weighing only 15 pounds with the hose attached, the 5-E is made to handle big or small jobs in a lightweight, easy-to-move package. It can be run using 120-volt AC or 12-volt DC power and is capable of 180 cfm. The static pressure is 0.59 inches of water when on 120-volt AC and 1.3 inches of water when operating on 12-volt DC. It features an all-steel construction with a carry handle and a flexible 4-inch-diameter, 8-foot-long hose.

"At annual trade shows and all year long, both over the phone and by email, we get a lot of positive feedback. The most common regret we hear from customers is that they did not get the 5-E sooner," Kovacs says.

"That said, the most important customer feedback we get is when someone is not happy with their 5-E. We work hard to resolve these rare, but important issues. When appropriate, we use this feedback to make product improvements." 732-251-0800; [www.superiorsignal.com](http://www.superiorsignal.com).



## 1 SEWER EQUIPMENT 800 SERIES IV TRUCK JET

The 800 Series IV truck jet from Sewer Equipment offers several features that lend themselves specifically to cold-weather applications. The rear door can close completely with the hose reel fully extended, providing maximum heat retention inside the environmental enclosure where water components are stored. A new feature gives up to 20 gpm of hot water to feed the washdown reel, lateral reel and jetting circuits during cold-weather operations. A lack of PTO engagement allows for wintertime recirculation of the water system at highway speeds as a standard feature, saving the time otherwise spent blowing down the entire water system between job sites. The addition of a centralized water drain makes winterization easy, as there is only one drain to blow down, and a retractable canopy adds protection from the weather. 888-477-7611; [www.sewerequipment.com](http://www.sewerequipment.com).

## 2 PICOTE SOLUTIONS 3D CLEANING CHAIN

Picote Solutions 3D cleaning chains are self-adjusting; so within different diameters, they can effectively clean the pipe without the need to keep multiple cleaning chains on board the support vehicle. The 3D cleaning chains are available in three sizes: small for cleaning 1.96- to 2.95-inch-diameter pipe; midrange for 2.75- to 3.94-inch-diameter pipes; and large chain for cleaning 3.94- to 5.90-inch-diameter pipes. Two models of chain are available. The premium uses a U-carbide teeth configuration for more aggressive cleaning; the PVC version without carbides is less aggressive and is a safer choice when the pipe condition is unknown or less stable. 708-267-6366; [www.picotesolutions.com](http://www.picotesolutions.com).

CONTINUED >>



## INSPECTION & LOCATION

### Introducing Extreme Series Cordless Sewer Cameras

**S**ewer Equipment Co. of Nevada is introducing its Extreme Series cordless sewer cameras powered by DeWALT.

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



Contact **Sewer Equipment Co. of Nevada** for all of your plumbing equipment needs. The company also offers hydro jetters, trailer jetters, locators, leak

detection, drain machines, as well as parts and accessories.

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## INSPECTION & LOCATION

### The Solution for Oversized, Heavy Camera Equipment



**A**re you tired of using a two-wheeler and making multiple trips to get your camera into place on the job site? You don't need to sacrifice functionality for features with this system.

Inspector Cameras' quality, lightweight sewer camera includes all necessary features for sewer inspections. At only 24 pounds, the camera is easily carried to any job site, including crawl spaces or narrow basement stairways. This system is also priced to allow businesses to have one on every truck. It comes with a self-leveling, 1-inch camera head, 512 Hz sonde for locating, a meter counter, adjustable LED lighting, video recording or snapshot pictures, a color monitor, battery or cord operation, and a wireless keyboard. Its modular design allows for easy service or repair.



**Inspector Cameras** offers inspection cameras (sewer and drain camera models) for home inspectors, septic system professionals, building maintenance technicians and more. The company will work with you to decide on the correct combination of features, and offers full technical support.

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### 3 MAX-LIFE GRIT CATCHER TOOL

The grit catcher from Max-Life has a shovellike design that helps the tool act as a debris catcher, grit catcher and debris scooper all in one. The debris scooper can be attached to fiberglass poles and rope to reach deeper pipe. This system reduces wobble while cleaning the line, stabilizing it while raising and lowering the catcher in a manhole. The tool is gold plated to extend service life. Current sizes are for 4-, 6-, 8-, 10-, 12-, 15-, 18- and 24-inch pipe. Custom sizes can be made upon request. 714-898-4830; [www.maxlifemfg.com](http://www.maxlifemfg.com).

### 4 GENERAL PIPE CLEANERS AUTOCUTPL TUBING CUTTER

The AutoCutPL plastic tubing cutter from General Pipe Cleaners offers a fast, easy way to cut PEX and CPVC-CTS plastic tubing. Compact and convenient, the AutoCutPL produces clean, uncrushed, square cuts with less effort. Great for use in tight spaces, the AutoCutPL lets you cut plastic tubing with less than 1 inch of clearance. The easy-to-use tool cuts plastic tubing in as little as one rotation. The blade is easily replaceable, and the blade guard protects the blade — and fingers — from workplace and toolbox damage. AutoCutPL comes in three sizes: 1/2, 3/4 and 1 inch for PEX and CPVC-CTS tubing. 800-245-6200; [www.drainbrain.com](http://www.drainbrain.com).

### 5 RIDGID RP 342-XL PRESS TOOL

The RIDGID RP 342-XL press tool can press 1/2- to 4-inch copper, stainless steel and carbon steel pipe, as well as 1/2- to 2-inch PEX pipe, in under 12 seconds and all with one tool. The lightweight RP 342-XL features QuickSwitch technology to switch from standard to extended 32kN applications to press 2 1/2- to 4-inch carbon steel. It is compatible with the full line of RIDGID standard 32kN press tool accessories, including the StrutSlayr strut shear head, Press Snap soil pipe cutter and all MegaPress jaws. 800-474-3443; [www.ridgid.com](http://www.ridgid.com).

### 6 GRADALL FIXED-THUMB GRAPPLE ATTACHMENTS

Fixed-thumb grapple attachments from Gradall expand the capabilities of Gradall excavators in emergency applications after severe weather, as well as during routine job site cleanup and demolition. The fixed-thumb grapple is a primary attachment for Gradall Storm Recovery Series models — wheeled excavators designed to provide emergency response in the aftermath of hurricanes, tornadoes and other natural disasters. The grapple attachments can be used to reach out and remove brush, debris and tree limbs. The highway-speed model can be driven at 60 mph to address blocked roadways and provide access for other first responders. 800-445-4752; [www.gradall.com](http://www.gradall.com). **c**



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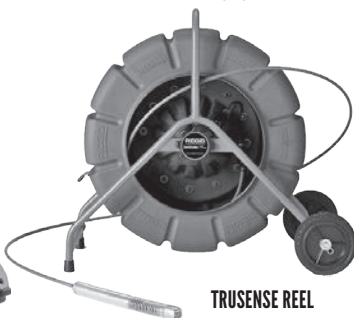


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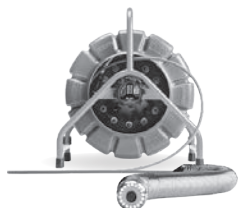
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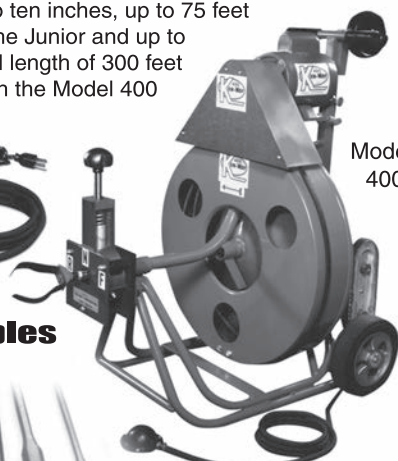
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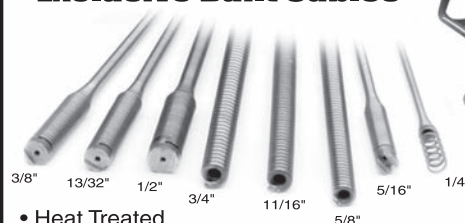


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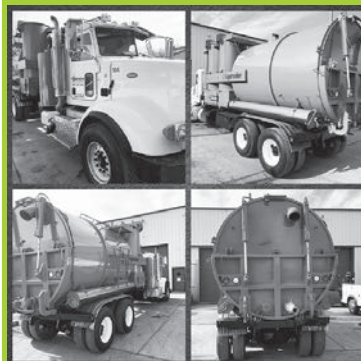
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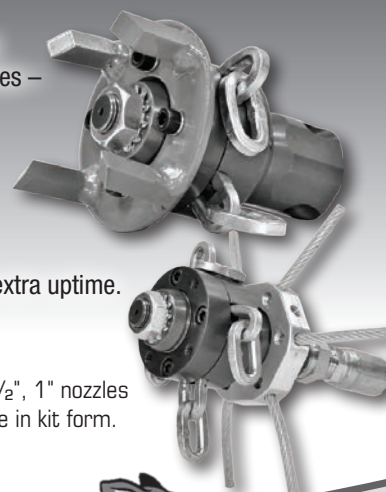
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