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# Cleaner®



## A Closer Look

Laser and sonar technologies help R&R take pipe inspection to new heights of quality

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### READER PIPELINES

Seeking quality in inspection gear

### TECH PERSPECTIVE

The management function in inspection

### TOUGH JOB

A challenging underwater pipe inspection

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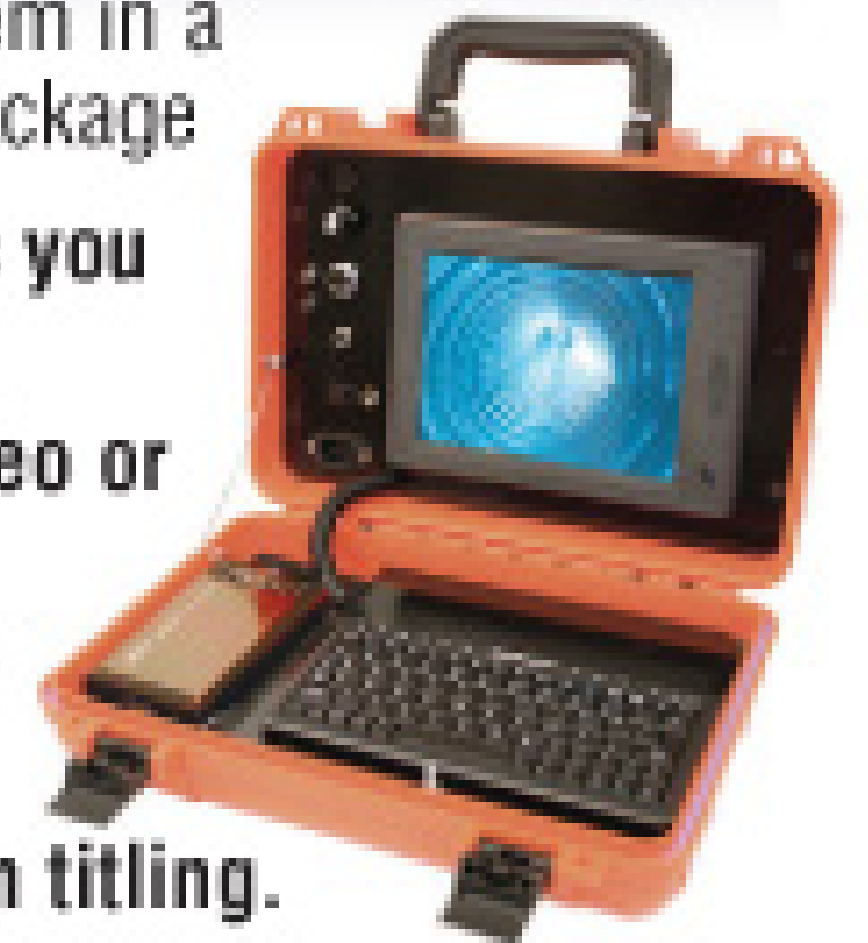
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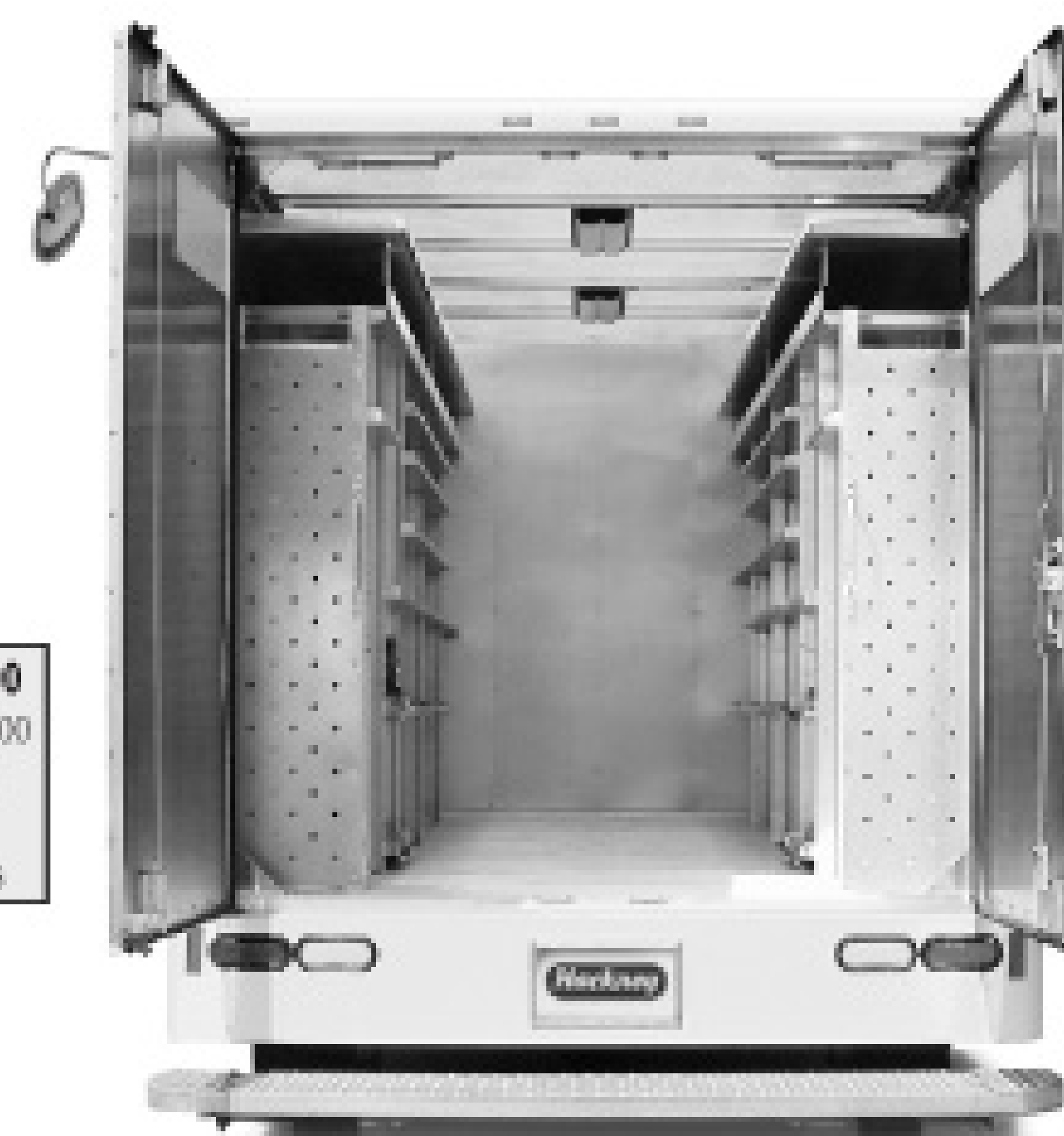
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Published monthly by  
**COLE Publishing Inc.**  
1720 Maple Lake Dam Rd.  
PO Box 220  
Three Lakes, WI 54562

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**SUBSCRIPTION INFORMATION:** A one year (12 issue) subscription to *Cleaner* in the contiguous 48 U.S. states costs \$15.50 (24 issues for \$25; 36 issues for \$35). Subscriptions to Canada or Mexico cost \$27.50 per year (24 issues for \$52). Subscriptions to all other foreign countries cost \$80 per year. Subscribers are guaranteed monthly delivery of the paper. To subscribe, send company name, mailing address, phone number and check or money order (U.S. funds payable to COLE Publishing Inc.) to the address above. MasterCard, VISA and Discover are also accepted. Supply credit card information with your subscription order.

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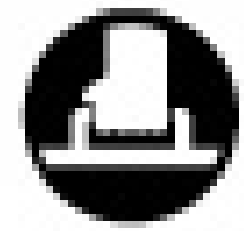


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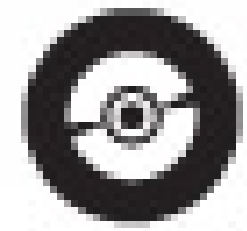
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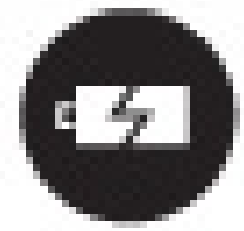
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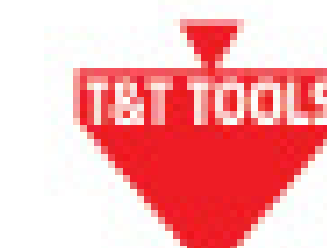
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## Always Right?

**Do you have some customers or customer types who constantly try your patience? Where's the line between catering to customers and letting yourself be misused?**

In last month's Better Business story, Drew Denmon shared a number of thoughts about how you and your vendors might approach your business relationships. It's worthwhile reading, and I recommend it.

In mulling over his ideas, it might be worthwhile, in turn, to think about your relationships with your own customers and the ethics and courtesies that should apply there. I'm not thinking here about contractors who mistreat customers, because they are by far the minority (and in the end usually get what they deserve).

Instead, I'm thinking of contractors who let customers mistreat them and their people. A lot gets written about customer service and how, especially in a tough economy, people need to keep customers happy. But sometimes that pendulum swings too far, to where customers think they have the right to demand anything and everything. As a business owner, how do you deal with them?

### To extremes

Some years ago, a national pizza

chain known for pleasing customers had a satisfaction guarantee: If you didn't like your pizza, you got your money back. Talking to a business magazine, an executive of the company told how a store manager treated one customer who complained about the pizza every time he ordered one.

"Because I can't satisfy you," this manager said, "I'll simply give you a free pizza anytime you want one." The executive actually bragged about this. But where's the sense in it? Clearly that's the time to tell the customer, "I'm sorry you don't like our product, but there are other places in town. You're welcome to try one of them next time."

For my own part, I once worked for a company where some of my

\$16 for long-distance phone charges on an invoice.

This fellow drove his service team crazy. He made work life miserable for them. But did the company owner ever think of cutting him loose? Or at least sit down with him behind a closed door and have a heart to heart about showing his people some common respect and courtesy? No. After all, his money was green.

### When is it too much?

The fact is that while you do need to please customers, and probably err a little on the side of doing more than you think is necessary, you don't have to take abuse, and neither should your people. Just as you owe certain courtesies to the vendors who

grounds that some customers are just not worth having. But there's an intermediate step, which goes by names like diplomacy and finesse.

### A little disarmament

I remember a time when I mistreated a service person at a home supply store. I was replacing a patio door as part of a remodeling project that wasn't going all that well, and this store delivered a door that was clearly not what I ordered.

I phoned customer service and had started getting rude when the young man on the other end – obviously well-trained – politely cut me off. "Sir," he said, "we don't need this. It's our mistake, we're going to make you happy. How can I help?" We

**Unfortunately, amid all the preaching that the customer is king, some people take that all too literally. Those are the people who complain about the price of a job, no matter how fair and reasonable. ... Who believe too fervently in the old maxim that, as the customer, they are always right.**

colleagues had to deal with a difficult client. How difficult? He once got into his car and drove 20 miles across a major city so that he could personally berate an account executive about

supply you with equipment and services, customers owe certain courtesies to you.

Unfortunately, amid all the preaching that the customer is king, some people take that all too literally. Those are the people who complain about the price of a job, no matter how fair and reasonable. Who are rude to your people on the telephone and abusive to your technicians in the field. Who believe too fervently in the old maxim that, as the customer, they are always right.

Well, they aren't always right, and they cross the line especially when they start making things miserable for your people who are trying to serve them. So, what do you do with them?

The quick and simple thing to do is simply cut them loose on the

resolved the problem, and I left thinking well of him and the store (though he probably still thought I was a jerk, because I had been).

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But if such intermediate steps don't work – if you encounter customers who are truly nothing but trouble – by all means cut them loose. Their money may be green, but their effect on your people, and therefore on your business, is poison. Business goes better when common courtesy is a two-way street. ■



Ted J. Rulseh



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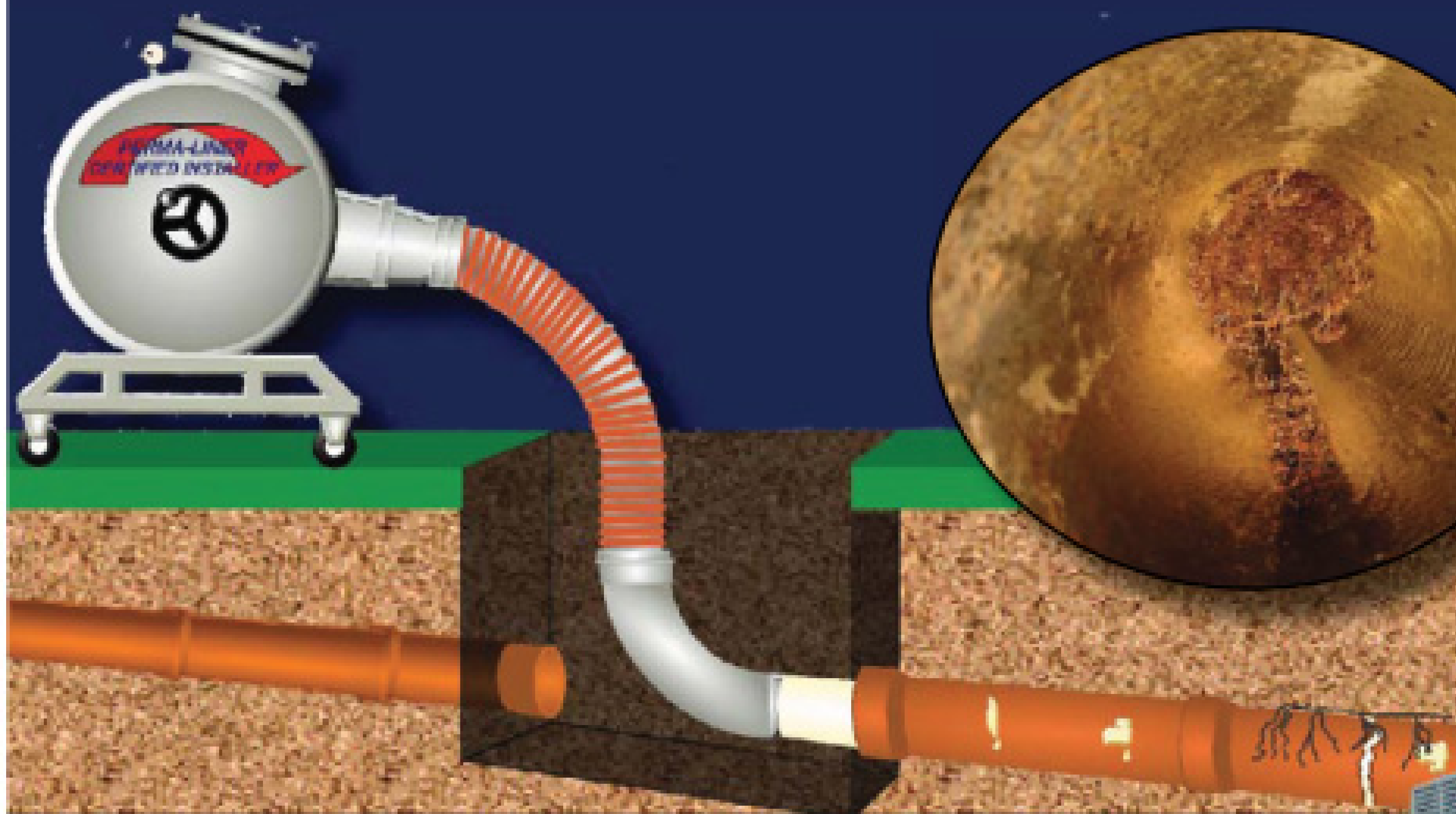
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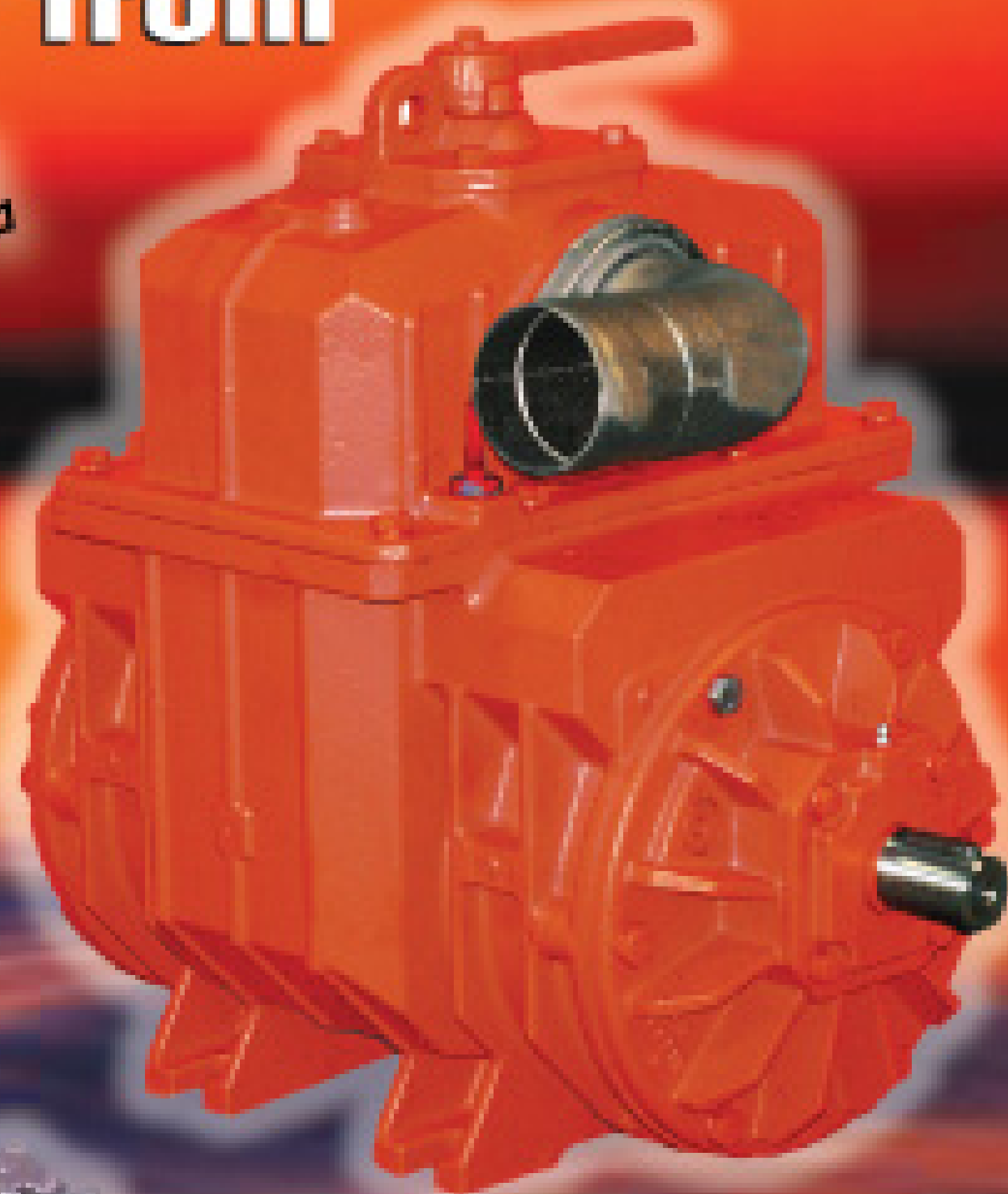
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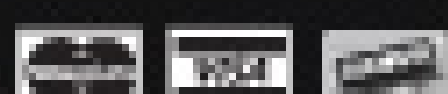


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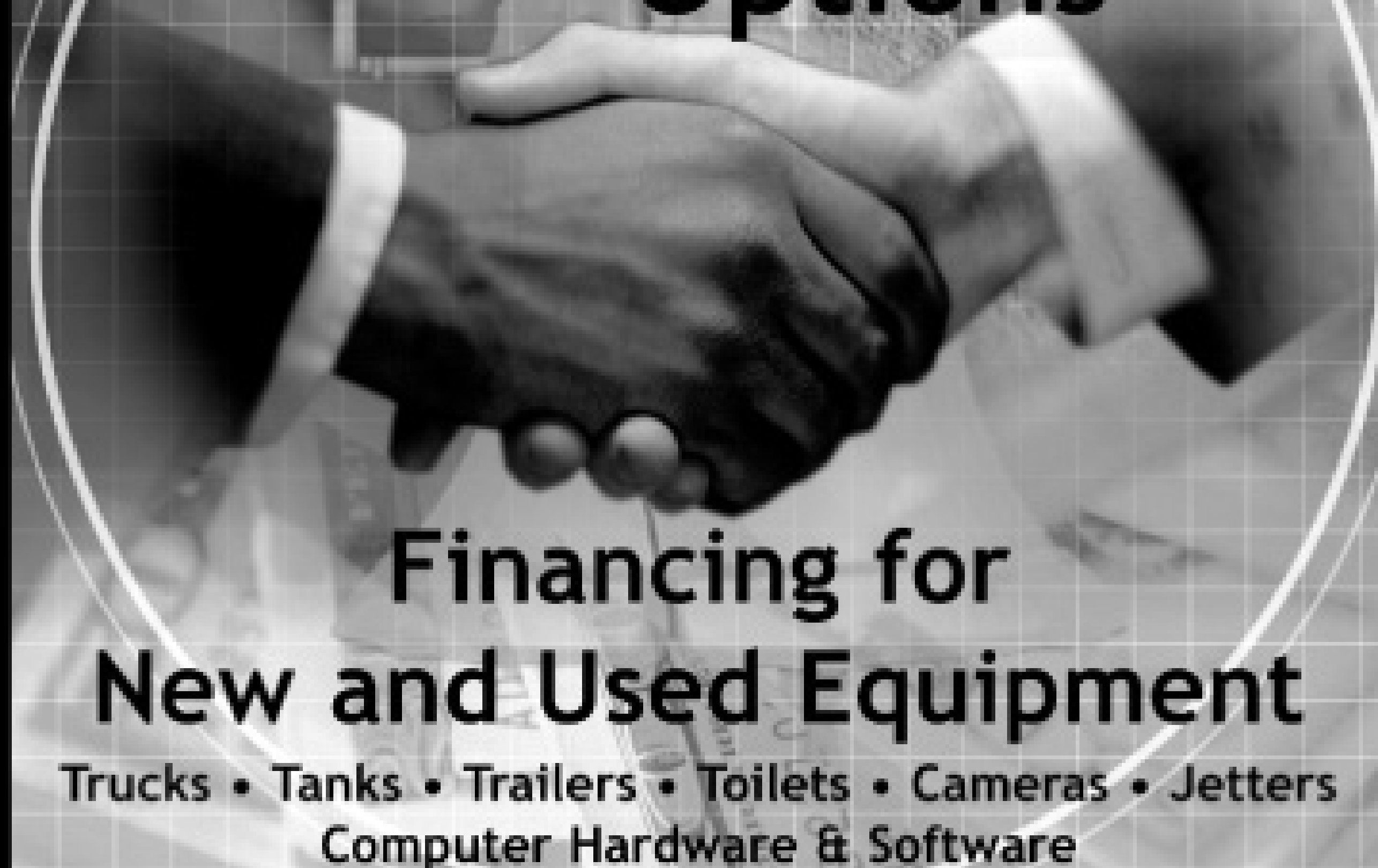
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# Safety Is an Attitude

Accidents are less frequent when employees buy into your company's goals and support its values

By Scottie Dayton

**F**ormer GE Chairman and CEO Jack Welch once told *Business Week* that employee opinions about their workplace were leading indicators of actual safety performance. Research by Towers Perrin-ISR, an international employee-research consultancy, confirms

## Safety FIRST

that the most important aspects to improving safety are supervision, employee empowerment, teamwork and workload.

As a small business owner, you can begin to evaluate employee engagement by learning whether your people believe in your goals and support company values; if they are proud to be part of the organization; if they exert the maximum effort in their work; and if they intend to stay through good and bad times. Success begins when each dimension is present to some degree.

The ISR study also found that employees are more engaged when companies offer them career development, leadership, empowerment and a positive image. The key to achieving all four begins with improving employer-employee relationships.

### Report card

A strong safety program begins at the top, and it's easy to grade your leadership level. According to ISR global research director Patrick Kulesa, employees engage more willingly when companies maintain high ethical standards, make their core values clear, and practice those values. "First-rate companies treat their employees with respect and seek their opinions," Kulesa says. "Likewise, employees respect management, and feel confident that they can express opposing views without ridicule or repercussion."

Clear, consistent leadership and two-way communication help develop high levels of engagement when combined with a robust strategy that galvanizes employees. In the process, the research indicates, you may also reduce work accidents.

their replies will be a revealing look at their level of engagement and how well you communicate your safety objectives.

### Perceptions count

The study also found that employees working in companies recognized for safety excellence replied more favorably when asked if their area was a safe place to work, whether the physical working conditions were satisfactory, whether the company provided adequate safety training, and whether employees received enough training to improve their skills. This group also reported fewer documented work-related injuries.

One way to increase your company's positive image is to join the OSHA Voluntary Protection Program (VPP). Accepted businesses must

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**Clear, consistent leadership and two-way communication help develop high levels of engagement when combined with a robust strategy that galvanizes employees. In the process, the research indicates, you may also reduce work accidents.**

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The ISR study found that giving workers sufficient authority to do their jobs well, creating teamwork, and giving manageable workloads kept employees active in safety programs. "Employees rating workloads as heavy reported more accident-related interruptions, but the workload effect was cut by a third for employees who reported high levels of teamwork," says Kulesa. "That group experienced fewer accidents, too."

You can improve safety by enhancing your company's operating efficiency, work culture, and training practices, but you'll never know how successful these attempts are until you take yearly anonymous surveys. When your employees feel completely safe to speak their minds,

demonstrate an organizationwide commitment to health and safety, agreeing to meet requirements much more stringent than OSHA regulations. In return, companies gain a degree of exemption from random OSHA inspections and earn special recognition for their commitment to safety.

According to U.S. Department of Labor statistics, companies in the VPP average 54 percent fewer injuries and illnesses and 60 to 80 percent lower lost-workday rates than companies that don't participate. The VPP Participants' Association estimates that these businesses have saved more than \$1 billion since 1982. Find out more at [www.osha.gov/dcspp/vpp](http://www.osha.gov/dcspp/vpp). ■



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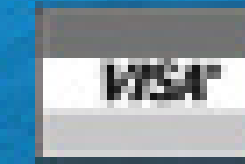
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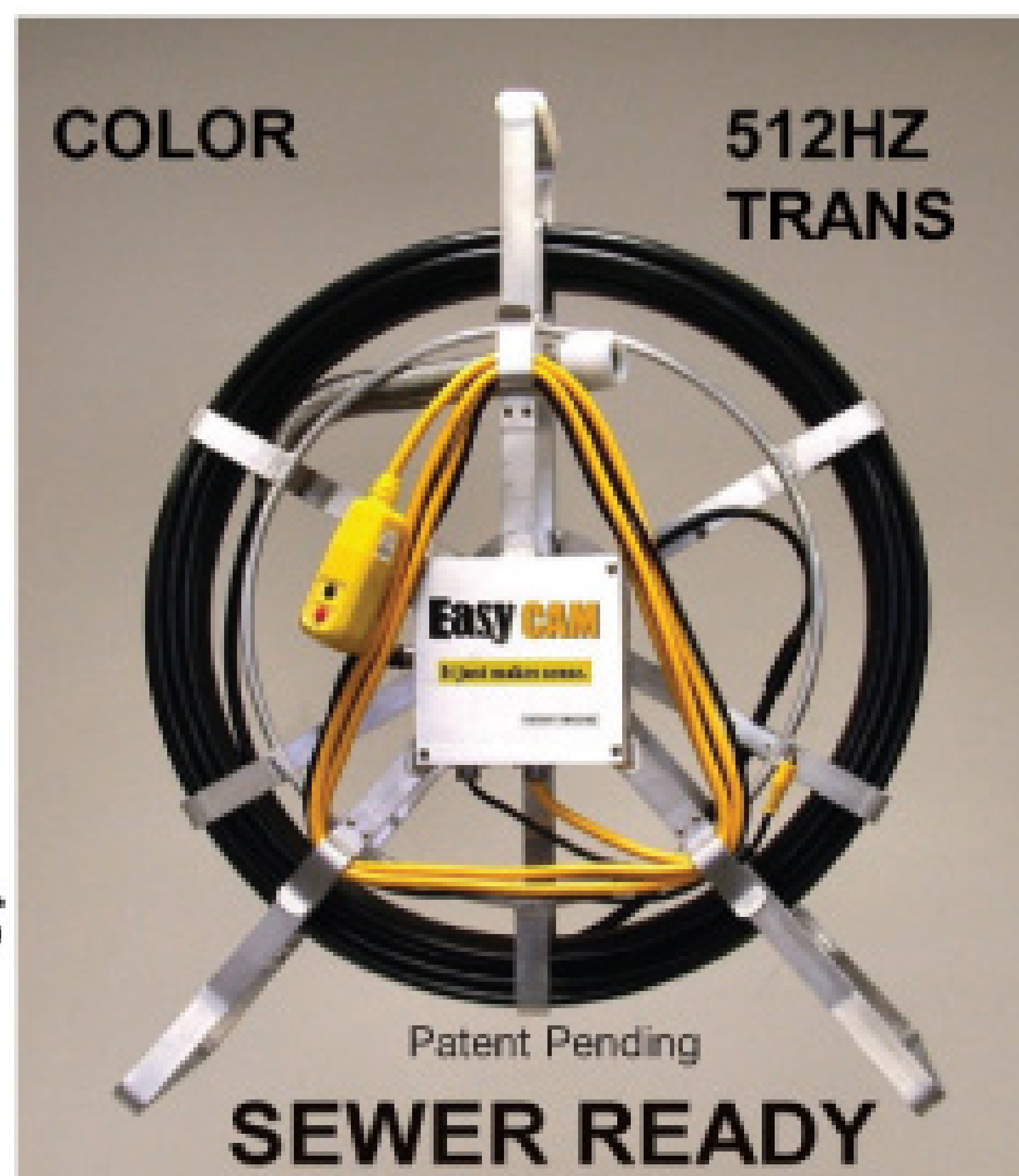
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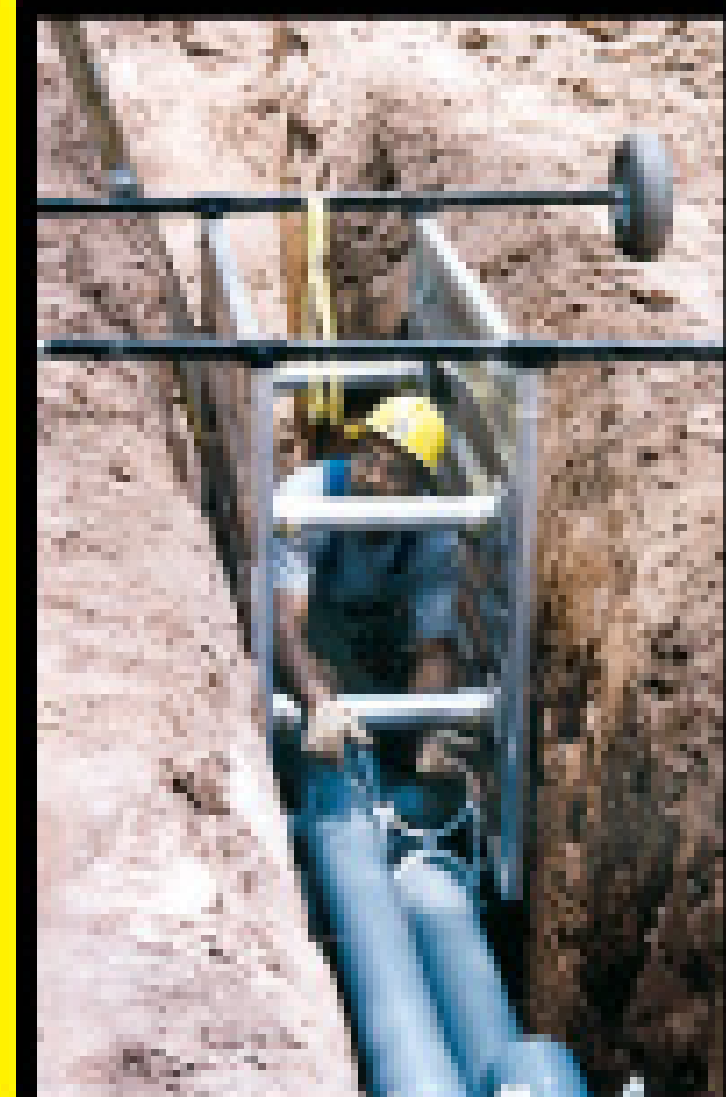
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# A Closer Look

**Sonar and laser technologies help R&R Visual take the inspection of pipelines to new levels and deliver accurate data to customers**

By Erik Gunn

Rex Robison's sewer-cleaning business was so good that it kept him out of college. But that was only the beginning.

Seventeen years after he went into business in his senior year in high school, Robison has seen his company, R&R Visual Inc., grow from a garden-variety sewer operation serving his home state of Indiana to a specialized inspection service that covers the world with cutting-edge technology.

Robison never did get that college degree, but he has learned a lot on the job. His technical interests even took him on a side trip of sorts, bringing new techniques and equipment to inspections well outside the sewer business. Now he's coming full circle, applying some of the same technology, mainly laser and sonar inspection, in the sewer business again.

"We work worldwide now," says Robison, whose company is still based just outside Rochester, Ind., where he grew up. "It's really focused on inspection. We will do cleaning if we need to, but we don't keep a large stock of cleaning equipment."

Inspection is another story. Robison says sonar and laser technology are opening whole new vistas for sewer inspection, offering more reliable and detailed ways to assess and measure the conditions of clogged or obstructed sewers. The company's stock in trade is "taking on the tough and near-impossible projects."

#### High school job

Robison's father owned a septic tank cleaning business, and Robison often accompanied him to the annual Pumper & Cleaner Expo, where they studied innovations coming on line for the industry. "It was always interesting to see the new technology," Robison says.

All set to go to college, Robison decided to take a year off to earn some money. In his senior year in high school in 1991, he bought a sewer cleaner and began offering his services to municipalities. While Robison helped his dad on septic cleaning jobs, dad would help him on sewer cleaning. "We kind of fed off each other," Robison says.

"I started doing really well, so I thought, 'Well, I'll buy a camera system,'" Robison says. His first camera

was a Pearpoint black-and-white push camera. His father urged him to go to more trade shows and get to know the industry in Indiana. Business grew. In 1993 Robison changed the name from R&R Sewer to R&R Visual and began focusing mostly on inspection.

In a few years, he spread beyond sewer work, using sonar devices to study levees. Then a private contractor hired his company to use its sonar gear to study vertical

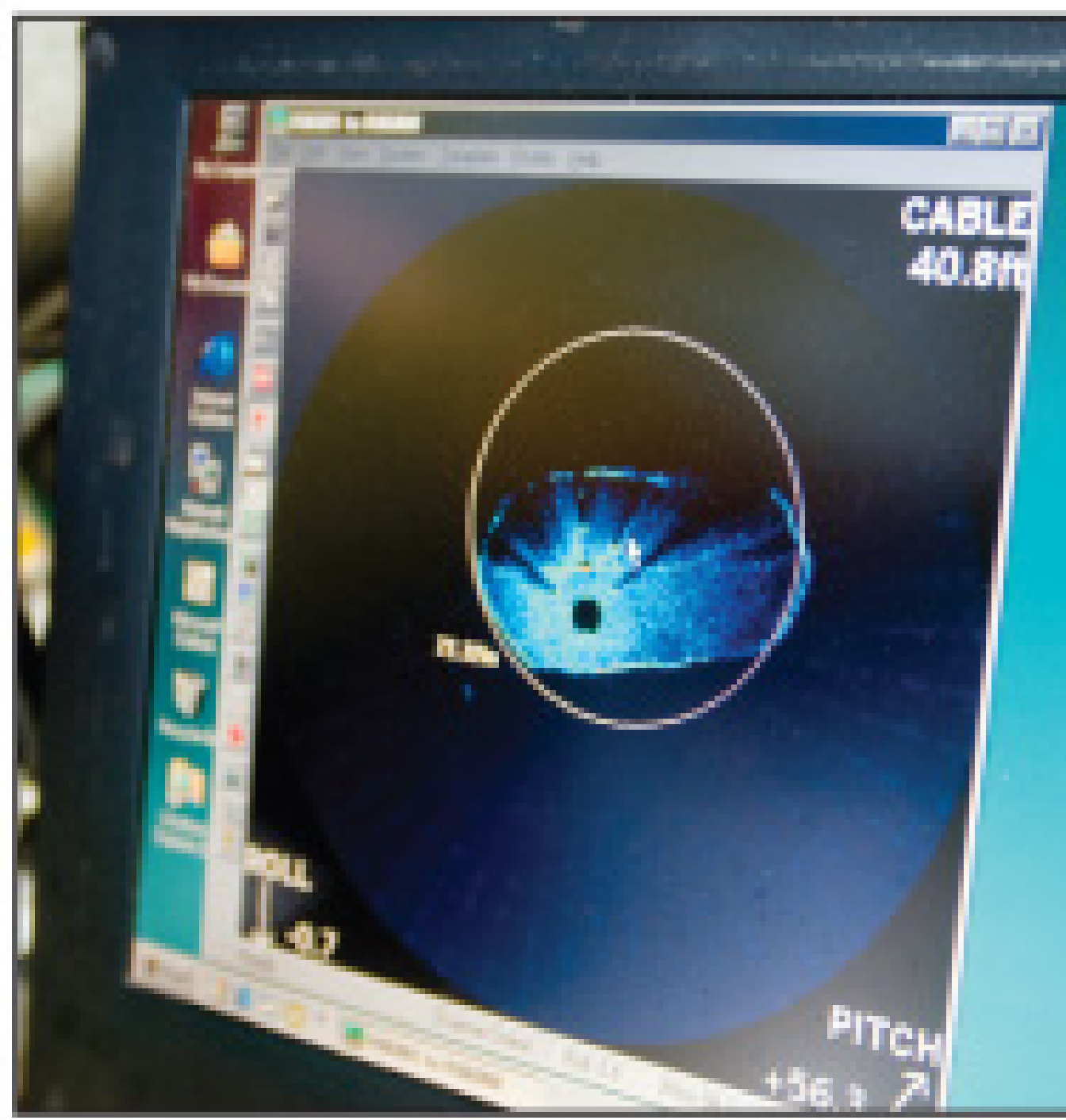
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ANNUAL REVENUE:	\$2 million
SPECIALTIES:	Pipeline inspection with CCTV, sonar and laser technologies
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Left photo: R&R visual crew member Jeremy Fansler views live sonar inspection data on a monitor. Above: Sonar inspection data helps customers evaluate pipe condition with high precision. (Photography by Clint Keller)



Bryan Benn of R&R Visual guides a sonar cable into a manhole for an inspection. Sonar profiling is among the advanced technologies the company uses to give customers complete data on their underground infrastructure.

shafts for pillars used to support bridges. Bridges typically rest on pillars sunk into holes 48 inches or more in diameter on the bottom of the river they cross.

It turns out that the shafts are often less straight than engineers on the project assume, Robison says. On his first such project, he and his customers learned a lot. "We were able to produce a 3-D model and show them how big the shaft was, if there was any sloughage falling off the walls, if there were any cavities coming off the side, if the course was rough or smooth, and also which way it was leaning," Robison says.

Those findings were important because variations in the shafts required tweaking in the bridge design to spread the load properly. Partnering with a load-testing company, R&R Visual began working with state departments of transportation, large contractors, and the U.S. Army Corps of Engineers. State officials began specifying the use of sonar detection methods to prove vertical shafts in construction projects.

"They use our system to check the verticality of the shaft and also the roughness of the walls, and at the bottom, whether it is flat or concave," Robison says. Contractors, in turn, used the data to determine how much concrete they would need to fill the shaft.

The company brought its technology to other industries, including the nuclear power and petrochemical industries.

**"With large-bore sewer lines where you're getting over 24 inches in diameter, the problem for cameras is that usually the flow is too high to be able to get a camera through it."**

**Rex Robison**

#### Back to the sewers

About six years ago, R&R Visual returned to its roots, with a whole new twist. Having built a depth of experience and the in-house knowledge and staff to conduct niche inspection applications with sonar and laser equipment, Robison began marketing those techniques to the sewer business.

"We thought this would take pipe inspection, sewer inspection

with sonar, to a level where it's meaningful," Robison says. That's because sonar and laser techniques provide a great deal more information than traditional CCTV.

Sonar inspection uses a transducer that spins at the end of a tether, sending out sound waves and calculating the time it takes for them to bounce back. The speed of sound varies with the temperature of the water it passes through. The

transducer and its software use the data to construct an accurate image of the profile of the pipeline.

Laser inspection uses a profiler attached to a conventional CCTV camera. The profiler projects a beam of laser light that makes a ring on the pipe surface as the camera moves through. The result creates images that can be accurately measured with the help of specialized computer software.

Both technologies enable inspectors to get detailed measurement information unavailable from a TV image alone, says Robison. "Instead of recording a video image, we're actually producing three-dimensional models where we can do measurements and get a lot of useful data to engineers."

The biggest demand for sonar sewer inspection has been for interceptors. "With large-bore sewer lines where you're getting over 24 inches in diameter, the problem for cameras is that usually the flow is

## Homegrown Software

Over the years, Rex Robison has used his own interest in computers to write software for sonar inspection and other technologies used by his company, R&R Visual Inc. "We like playing and tinkering and coming up with new ideas and new concepts, and we don't like to say no to a customer," he says.

Early in his sewer inspection career, he wrote software to help log inspection observations. Over time, software became increasingly sophisticated and complex, and Robison taught himself with books.

He also formed a parallel company, RapidView LLC, to market software and products for the inspection industry. RapidView is now North American distributor for the IBAK line of inspection cameras and other equipment.

The software R&R had been using was developed for inspecting vertical shafts in other industries, such as petrochemical production and construction. "We completely redesigned the software so it can work in horizontal applications for pipelines instead," Robison says.

too high to be able to get a camera through it," he says. Bypassing wastewater to get the line dry enough for a camera is expensive.

A sonar unit can be mounted to a raft and floated through the line. And its benefits don't stop there.

measure the distance from the waterline – the sonar head – to the bottom of the pipe, and we can see how much sediment is there. We're capturing this information at different intervals." The process can create a precise profile of the debris

efficiently if a specific project required heavy cleaning versus light cleaning."

Visual inspection was still required to determine the specific content of a blockage, but by getting a more precise measure of the debris volume that sonar provided, "We could base the cleaning contract specifically on the level of the debris," says Watt.

Imagenex 881A Profiling Sonar. Laser systems include three Cleanflow Systems Clearline Profile models, specified for one of three different cameras. The camera inventory includes a list of several IBAK and Pearpoint models, along with accessories.

Surprisingly for a company that started in the sewer-cleaning business, R&R Visual owns only one piece of



Jeremy Fansler installs a laser profiler on an Orion camera (RapidView) as part of an inspection project.

"Sonar is very useful for checking the geometry of a pipe," Robison says. It can produce measurements that show if the pipe has become deflected or corroded and can identify places where the line has produced misshapen bellies.

#### Mapping debris

But perhaps the biggest use for sonar in sewers is to detect how much debris or sediment is in the bottom of a pipeline. Cities that have combined sewers may use their sanitary sewers to retain stormwater. "If they have a lot of sediment and debris in the pipe, they're just using up useable storage area."

A camera can't really detect how much debris is under the water, and visual inspection usually offers just rough and often inaccurate assessments. A contractor called to inspect a 70-inch pipe carrying 60 inches of water "doesn't really know how much debris is in the bottom," says Robison, and the actual depth of the debris can be very uneven. "So their pricing for doing pipe segments is very expensive.

"With sonar, you can go through and pre-inspect it. You would float it through on a raft or drive it through on a robot. We can

and give cleaners a clearer understanding of the extent of the problems they face.

With the aid of imaging software, "We can produce a 3-D model and calculate how much sediment is throughout that entire pipeline," Robison says. "We also graph that, so when the customer hands this report off to a contractor and says, 'We want this pipe clean,' the sewer cleaner can give an accurate quote." Municipal customers also use sonar to help with quality inspection after a cleaning job is done.

#### Satisfied customers

In Indianapolis, Ind., MS Consultants, an engineering and architecture firm, worked for three or four years with R&R to conduct sonar and CCTV inspections of Indianapolis sewer lines over 36 inches in diameter. Jayson Watt, MS Consultants' resident project representative for Indianapolis, says the sonar provided inspection data that CCTV could not.

"The sonar would actually give us an estimate of the amount of debris that was in the line, so we could further assess the amount of cleaning needed," Watt explains. "We were able to determine more

**"We can produce a 3-D model and calculate how much sediment is throughout that entire pipeline. We also graph that, so when the customer hands this report off to a contractor and says, 'We want this pipe clean,' the sewer cleaner can give an accurate quote."**

**Rex Robison**

The engineering firm Lawson & Fisher Associates of South Bend, Ind., hired R&R a few years ago to use laser profiling to inspect PVC pipe at a new construction project. The pipe was holding water in spots. A mandrill fed through the line to check it was blocked where the line was out of round, but the extent of the problem wasn't clear. "With CCTV, we could see there were dips in the line," says Lawson & Fisher's Peggy Biggs. "But there was also a lot of debris in the line. It was very difficult to tell if it was debris or a dip in the line that was holding the water."

A laser inspection filled in the missing information. "All we knew was, we had two spots that were out of round," says Biggs. "Profiling helped us define how much of the pipe was out of round."

Based on the evidence, the municipality ordered the contractor to redo the job. Biggs says laser technology also can help with inspecting old, deteriorating pipe. "You can get a lot better measurement on what the degree of degradation on the pipe is," Biggs says. That can allow a much more precise assessment of the urgency of repairs or replacement.

#### Staying focused

Robison uses gear from a number of sources. Currently the firm uses 1512 profiling sonar transducers from Marine Electronics Ltd., based on the isle of Guernsey in the United Kingdom, along with an

cleaning equipment, a 2000 jetter from O'Brien Mfg. (a division of Hi-Vac Corporation) that operates at up to 4,000 psi/18 gpm. For other cleaning needs, the company rents equipment.

And that's the way Robison expects to keep it. Sewer cleaning may have started him on his path, but it's the inspection he thrives on today. In a field where the technology never stands still, he expects new developments to keep coming. And when they do, R&R Visual will be ready to try them out. ■

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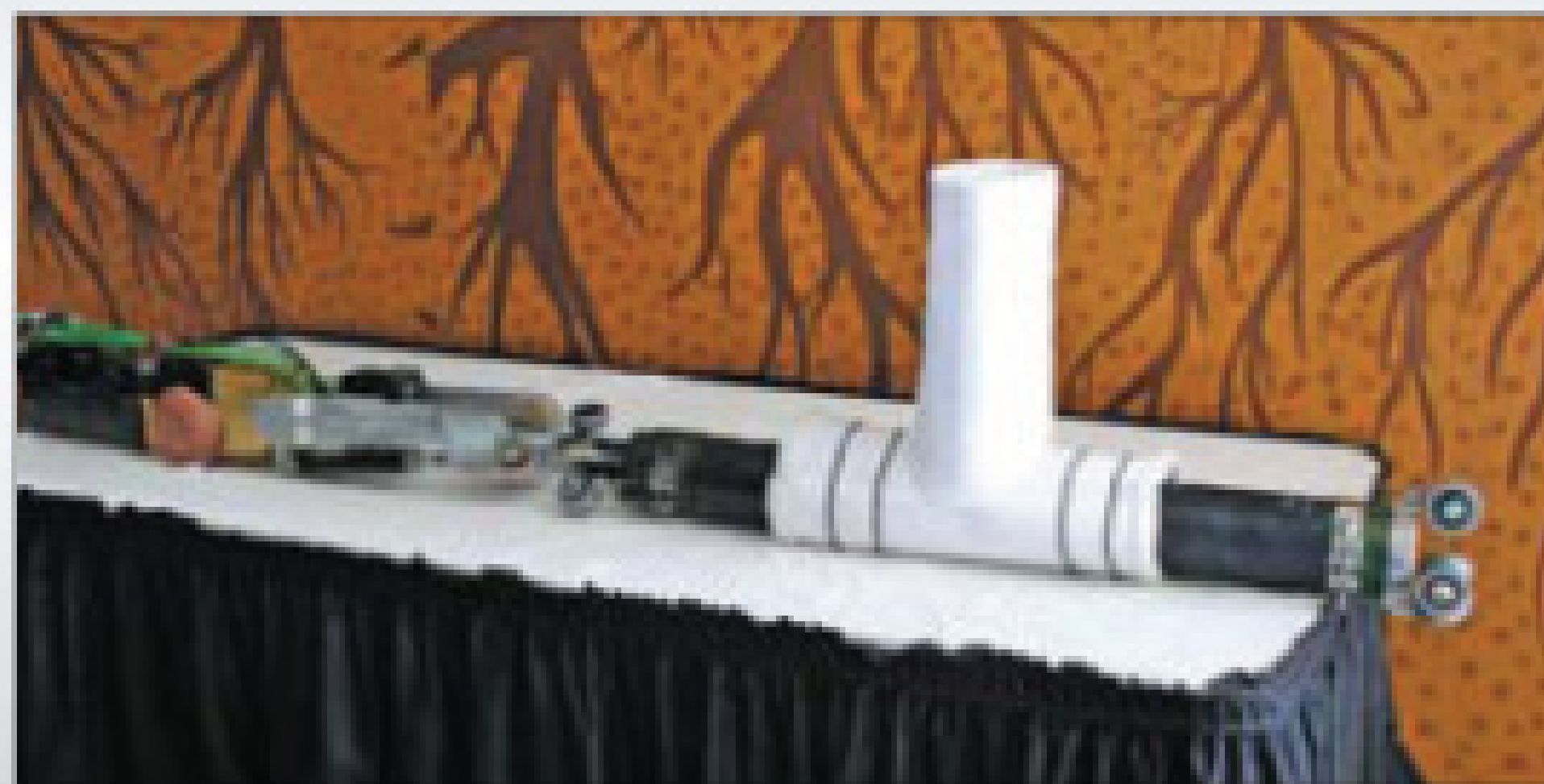


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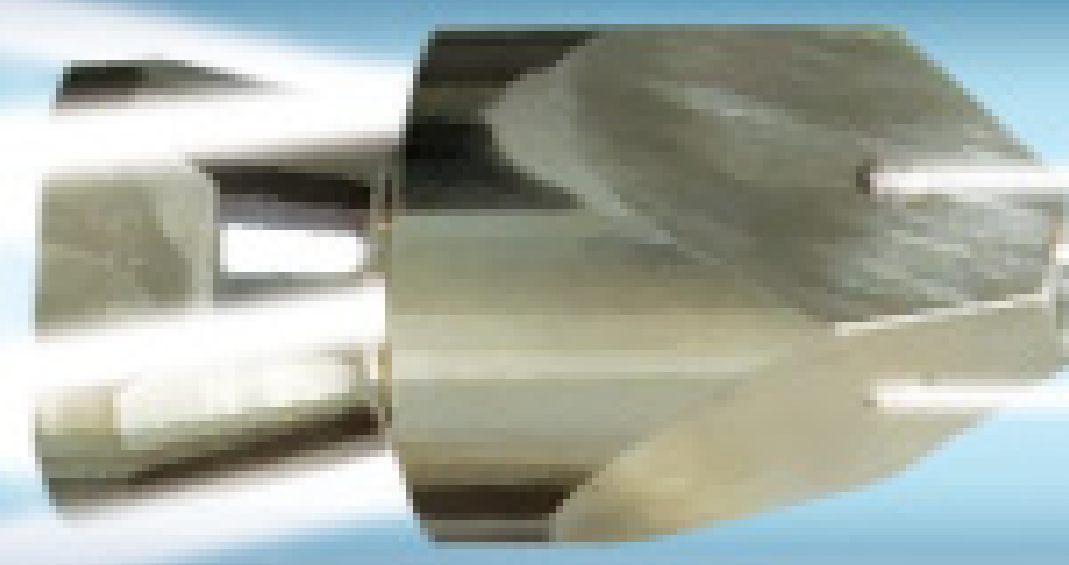


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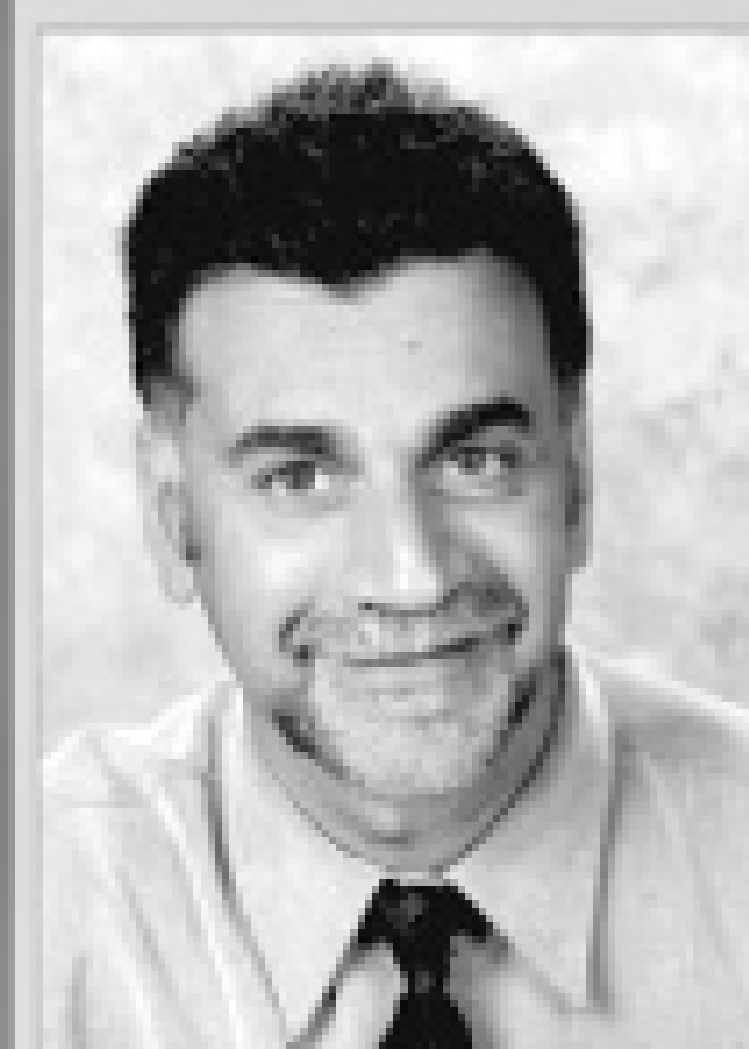
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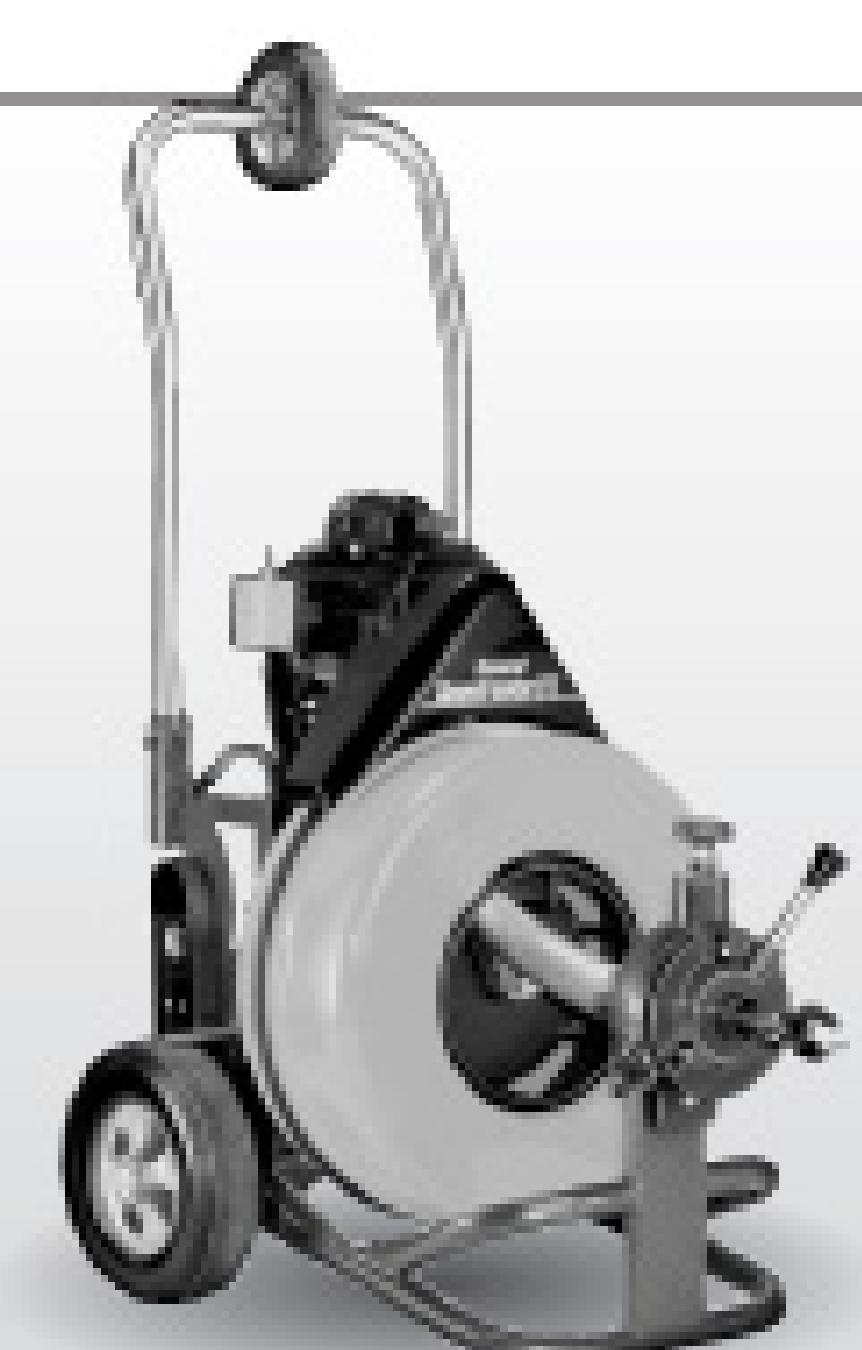
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Top photo: EST has expanded services from flow monitoring and smoke and dye testing to include full-scale video pipeline inspections, helping to identify inflow and infiltration issues for many municipalities throughout New England. Lower photo: EST's Geoff Beyer uses pipe survey software to make critical maintenance and repair decisions based on video footage captured by the crawler. (Photography by Donna Conde)

# Inspect with Care

**A move into pipeline inspection with a focus on quality and attention to detail means faster growth and higher profits for EST Associates**

By Erik Gunn

**A**t EST Associates, pipeline inspection is all about turning some clichés upside down. For example, the company motto could easily be: *Do sweat the small stuff.*

Or that one about forests and trees: Yes the forest is important, but when it comes to inspection, so are the trees. In short, attention to detail is Job One.

That philosophy has helped EST become, in just a few years, a well-regarded inspection contractor that customers frequently call back.

EST Associates, based in Needham, Mass., came to the inspection business on a slightly different path. Owner John Carlin founded the company 20 years ago as an environmental sampling and remediation firm and later branched into inspection. But a strong reputation in its original field helped EST gain inspection customers, and the company has built a strong operation by setting a standard for high quality and focusing on customer service.

EST keeps customers by doing quality work, hiring skilled employees, and using reliable equipment. "The quality of the work is your

selling point," Carlin says. "Having the right equipment and appropriately trained personnel is the biggest selling factor."

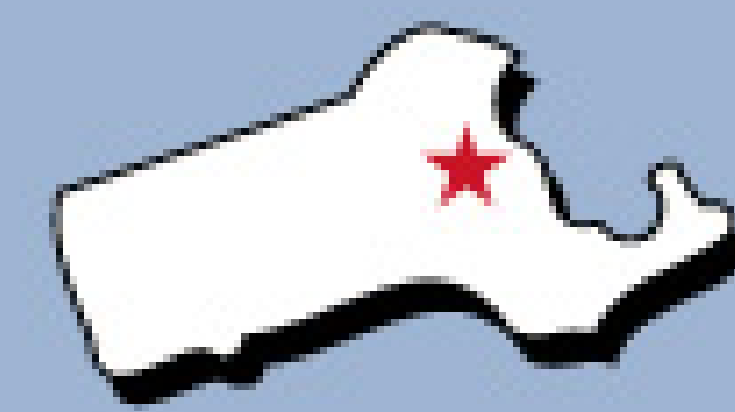
## Building blocks

Carlin began his career working for the field service division of an environmental laboratory. He incorporated his own company in 1989, offering services such as wastewater compliance sampling for industry and municipalities. He called the business Environmental Sampling Technology Inc., but as its portfolio broadened he changed the name to EST Associates Inc.

## P R O F I L E

### EST ASSOCIATES, NEEDHAM, MASS.

OWNER:	John Carlin
FOUNDED:	1989
SERVICE AREA:	New England
SPECIALTIES:	CCTV inspection, flow monitoring, smoke testing, environmental services
EMPLOYEES:	30
ANNUAL REVENUE:	\$7 million
WEB SITE:	<a href="http://www.estassociates.com">www.estassociates.com</a>





"Sampling and monitoring is still a significant part of our business," Carlin says. "But it's also led to other services, such as measuring effluent flows from industrial facilities. We started doing the flow monitoring, which eventually led into the whole world of sewer system evaluation services that we offer now."

From flow monitoring, the firm added smoke testing and dye testing, says John Corrigan, who now manages the sewer inspection services. A 10-year veteran of the company, Corrigan previously managed the O&M division, which provides operation maintenance of industrial wastewater treatment systems.

As EST moved deeper into pipeline services, the company saw bids coming out for sewer inspection and received direct inquiries from clients about TV inspections.

---

**"I wouldn't say its recession-proof, but it's recession-resistant. There's a direct benefit to municipalities for making improvements to their infrastructure. The paybacks are readily observed."**

**John Carlin**

"We decided, 'Let's try our hand at this,' and it has worked out very well," Corrigan says.

#### **Moving into video**

The company bought its first inspection camera secondhand about five years ago, picking it up from a competitor who had used it on a project but didn't want to develop that line of business. The firm bought a second camera in 2008.

"We ended up keeping the truck busy so often that we invested in another unit," Carlin says. "From there, it just kind of took off." With a full range of sewer service offerings, video inspection "kind of completes the circuit for us. A client doesn't have to go to another contractor to get this all done. It's one-stop shopping."

The company's services feed on each other. "We'll do work for clients on a CCTV project, and that



EST's Geoff Beyer deploys a crawler-mounted camera from the back of an inspection van.

will lead to some other work," Carlin observes. He credits the expanded services with helping profitability grow by 20 percent in recent years. The firm does most of its business in New England, although it's beginning to branch out from that core territory (see sidebar).

#### **Equipment and employees**

EST uses remotely operated ROVER inspection units and documents inspections with WinCan software, both from Envirosight. The company has taken advantage of the camera system's flexibility, making a variety of upgrades that include:

- Carbide-tipped spike wheels, which offer better traction on slippery surfaces such as PVC piping
- A camera raise kit to handle high flow levels
- Enhanced LED lighting for better pipe illumination
- Stronger cable motors, which enable handlers to retract crawlers faster.

"The addition of the crawler and its upgrades paid immediate dividends to our business by opening the door to more municipal clientele," says Carlin. "It also

allowed us to expand services to full-scale pipeline inspections. That helps us identify and rectify numerous inflow and infiltration challenges for our municipal customers."

Video inspection employs about five of the workforce of 30. Skill, training and exacting standards are keys for operators. EST uses the NASSCO Pipeline Assessment and

## **LOOKING TO EXPAND**

EST Associates' home base has always been New England, but the company is eyeing expansion in New Jersey. It's not entirely new territory for owner John Carlin. A graduate of Villanova University in suburban Philadelphia, Carlin is familiar with the region extending from the New York metro area into southeast Pennsylvania.

Especially between Manhattan and central New Jersey, "It's one refinery after another and one manufacturing facility after another," Carlin says. "It's obvious that there's a lot of environmental work to be done in that whole tri-state area. It's a huge market, and we think we can capture a nice piece of it."

Carlin hopes to open an EST satellite operation in New Jersey by the end of 2009. "We'll probably start with our traditional service lines: sampling and monitoring, groundwater monitoring and wastewater monitoring," he says. "From there we'll look to branch out into pipeline services."

Besides his own knowledge of the region, EST has an advantage in its customer network. "Some of the bigger consulting firms we work for in New England have offices in New York, New Jersey and the Philadelphia area, and we think we can parlay that a little bit," Carlin says.

"Some of our clients might have one office in the Boston area," he says, "and in the New York metro area they might have three offices. There's a lot of environmental work and there's a lot of infrastructure work to be done."





In its fleet, EST has two fully equipped CCTV vans and a small pickup truck with an outpost inspection module, which contains the video inspection equipment.

Certification Program (PACP) for coding defects.

Along with related sewer services, the business is holding its own even in the down economy. "I wouldn't say its recession-proof, but it's recession-resistant," Carlin says. "There's a direct benefit to municipalities for making improvements to their infrastructure. The paybacks are readily observed. It is a tough sell because there's nothing sexy about fixing the sewer system. Most communities want to build ball fields or bike paths or things like that. But there's no doubt about the economic benefits."

Hiring, training and retaining the best people is the company's biggest challenge.

"We offer very competitive benefits packages," Carlin says. "We really try to develop a sense of camaraderie among our employees and get them to treat every job as if it's the most important thing they're working on, which at the time it is."

#### Watching closely

Corrigan notes that some clients reported working with other inspection vendors whose quality disappointed them. "A lot of it was the quality of the pictures, and the contractors missing defects," he says. "The solution was getting our inspectors trained properly so they are seeing the defects – not just running the camera up the line as fast as they can, but actually paying attention to what they're looking at."

Quality inspection can be a matter of public safety. "We've had pipes with large holes in the top where you can actually see the asphalt in the street above, which comes very close to being a collapse situation," Corrigan says.

The age of New England's infrastructure also poses a challenge. "The most difficult stuff we've done is under drains in sewers," says Corrigan. "A lot of times they change the pipe size, and a lot of times the plans just don't tell you what's down there. Typically, they've never been inspected. You get large mineral

video, so that they can determine whether a repair or replacement project is in order.

"We just finished up a job in one of the local towns where we did about 86,000 feet of CCTV inspection," Corrigan says. "They're not going to watch video of 86,000 feet. That's what we're being hired to do."

#### Touching base

Communication with clients is the key. "We touch base with our clients routinely throughout the course of a project to make sure that

**"We offer very competitive benefits packages. We really try to develop a sense of camaraderie among our employees and get them to treat every job as if it's the most important thing they're working on, which at the time it is."**

**John Carlin**

deposits in a lot of them. So cleaning them is a challenge, just so you can get the CCTV up the lines."

It's not unusual to come across an unmapped change in line size midway through an inspection that requires a last-minute change in the size of the crawler. So EST emphasizes to its employees the importance of taking time and thoroughly logging their observations, so that customers – mostly engineering firms or municipalities – can rely on those logs to guide them to the most relevant portions of the inspection

we're meeting goals and objectives," Carlin says. "We always try to drive that point home in our internal meetings: The most critical thing is always trying to keep the lines of communication open.

"It's really just a question of telling our employees, every time we have a deliverable, to follow up with a phone call or an e-mail correspondence, just to check in and make sure that the clients have a chance to review the information and get feedback. We can't make any improvement unless we get feedback. So we

really try to focus on communicating and, more important, listening to what they tell us."

Thanks to that sort of customer focus, referrals by word of mouth account for more than 75 percent of the firm's business: either someone who has worked with EST in the past or someone who has received the company's name from another client.

A willingness to stay client-focused – like the time an EST crew went out during a Christmas Eve storm to sample stormwater runoff from a municipal landfill to meet a year-end board of health deadline – helps drive that repeat business.

#### When to say no

"You always have to put yourself in your client's shoes and do the job," Carlin says. "Act professionally and ethically, and as long as it's within those guidelines, we'll do whatever we can to make them happy."

Of course, some customers exploit that client-friendly work ethic. In those rare cases, says Carlin, "I use Irish diplomacy, where you tell someone to go to hell in such nice language that they'll enjoy the trip."

Turning serious, he concludes: "There's a very small group of clients that there's just nothing you can do to make them happy. As a business person you're probably better weeding some of those people out. Sometimes you just have to sift out the clients who are completely unreasonable or have unrealistic expectations, because they just drag you down. They're not good for morale. But there have been very few of those."

And as EST Associates works to keep exceeding customers' expectations, Carlin doesn't expect to encounter many more. ■

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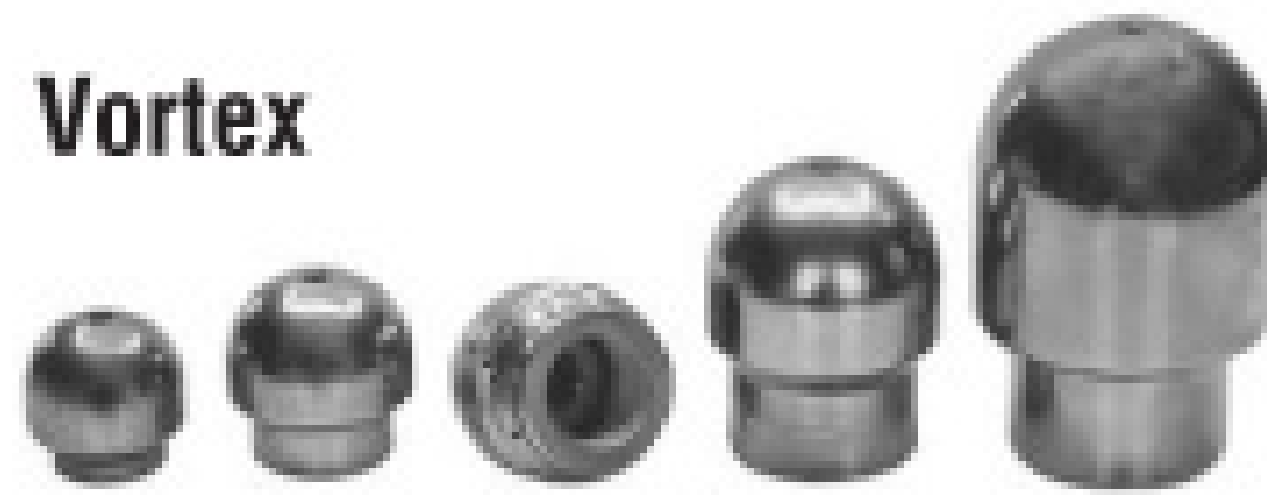
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See ads pages 43,53	<b>Allan J. Coleman</b> 5725 N Ravenwood Ave Chicago, IL 60660 773-728-2400 Fax: 773-728-2499 www.allanjcoleman.com info@allanjcoleman.com	RIDGID®/ General/ Electric Eel	1 1/2" to 12"	30' to 325'	CD/DVD VHS/ /DVR		YES	YES	YES		YES
See ad page 74	<b>Amazing Machinery, Inc.</b> 2288 Gunbarrel Rd Suite 111-151 Chattanooga, TN 37421 800-504-7435 Fax: 800-504-7436 www.amazingmachinery.com sales@amazingmachinery.com	Amazing Machinery/ Forbest/Wohler	2" to 16"	65' to 400'	DVD/SD/ USB/DVR			YES	YES		YES
See ad page 65	 <b>Aries Industries, Inc</b> 550 Elizabeth Street Waukesha, WI 53186 262-896-7205 Fax: 262-896-7099 www.ariesindustries.com sales@ariesindustries.com	Aries	2" to 200"	100' to 3500'	CD/DVD/VHS/ VIDEO/ CAPTURE TO MPEG	YES	YES	YES	YES	YES	YES
See ad page 74	<b>Bright Dyes/Div. of Kingscote Chemicals</b> 3334 S. Tech Blvd. Miamisburg, OH 45342 800-394-0678 Fax: 937-886-9300 www.brightdyes.com sales@brightdyes.com	Bright Dyes									YES
See ad page 34	<b>Central Oklahoma Winnelson</b> 5037 NW 10th Street Oklahoma City, OK 73127 405-947-8761 Fax: 405-947-1934 www.centralwinnelson.com krjones@winnelson.com	RIDGID®/General/ Vision Tech	1 1/4" to 12"	200' to 325'	DVD/VHS		YES	YES	YES		YES
See ad page 75	<b>CuaClaws</b> 2376 Maize Rd Twentynine Palms, CA 92277 714-697-8697 www.cuaclaws.com jerry@cuaclaws.com	CuaClaws							YES		
See ad page 55	 <b>CUES</b> 3600 Rio Vista Ave. Orlando, FL 32805 800-327-7791 Fax: 407-425-1569 www.cuesinc.com salesinfo@cuesinc.com	CUES	2" to 200"	500' to 4000'	CD/DVD/ VHS/Any Digital Media	YES	YES	YES	YES	YES	YES
See ad page 63	<b>CYCLOPS Electronics, Inc.</b> 123 Commerce Ave. Boerne, TX 78006 830-249-9756 Fax: 830-249-8535 www.cyclopstv.com cyclopstv@beecreek.net	CYCLOPS	6" to 48"	500' to 1000'	DVD/ Computer	YES	YES	YES	YES	YES	
See ad page 14	<b>Draincables Direct</b> 4370 Moline-Martin Rd Millbury, OH 43447 800-421-4580 Fax: 419-838-6071 www.draincables.com sales@draincables.com	VT Design	2" to 6"	25' to 250'	CD/DVD/ DVR			YES	YES		YES
See ad page 42	 <b>Duracable Manufacturing</b> 300 Ashworth Road West Des Moines, IA 50265 877-244-0556 Fax: 515-223-4220 www.duracable.com sales@duracable.com	RIDGID®, Pearpoint, Radiodetection			DVD/VHS/ Scan Disk		YES	YES		YES	
See ad page 75	<b>Dynamic Cable Repairs</b> 40 Arnot Street, Unit 20 Lodi, NJ 07644 973-478-0893 Fax: 973-478-0895 www.dynamicrepairs.net dynamiccablerepairs@yahoo.com	RIDGID®/ General Wire/Ratech	2" to 10"	100' to 400'	CD/DVD/VHS		Yes				YES
See ad page 20	<b>Easy CAM, LLC</b> 117 Regional Park Drive Kingsport, TN 37660-7455 423-349-4300 Fax: 423-349-4371 www.easycamllc.com info@easycamllc.com		4" to 6"	150' to 200'	CD/DVD/ VHS/2nd Video Output		YES	YES	YES		YES
See ad page 83	 <b>Electric Eel Mfg. Co.</b> 501 W. Leffel Land Springfield, OH 45501 800-833-1212 Fax: 937-323-3767 www.electriceel.com info@electriceel.com	Eel Cam	1" to 12"	100' to 400'	CD/DVD/ VHS/SD Card		YES	YES	YES		YES

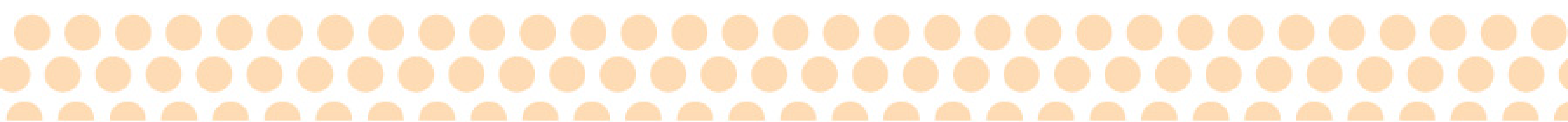


		DEALER OF	PIPE DIAMETER	REEL SIZES	RECORDING FORMATS	SOFTWARE AVAILABLE	REPAIR FACILITY	PARTS AVAILABLE	ACCESSORIES AVAILABLE	INSPECTION VEHICLES	LOCATING EQUIPMENT
See ad page 75	<b>Electronic Repair Co.</b> 8518 1st Ave No. Birmingham, AL 35206 205-836-0454 www.servicewithasmile.com part@servicewithasmile.com	General Wire, Ratech, Vision, RIDGID®					YES				
 See ad page 5	<b>Envirosight LLC</b> 111 Canfield Ave. Unit B3 Randolph, NJ 07869 973-252-6700 Fax: 973-252-1176 www.envirosight.com office@envirosight.com	Quick View/ Rover/SuperVision/ DigiSewer/VeriSight/ WinCan/OutPost/ HydroCut/Agillos	4" to 60"	100' to 1600'	CD/DVD/ VHS/ Hard Disk/ Flash Drive	YES	YES	YES	YES	YES	YES
 See ad page 2	<b>General Wire Spring Company/General Pipe Cleaners</b> 1101 Thompson Ave. McKees Rocks, PA 15136 412-771-6300 Fax: 412-771-2771 www.drainbrain.com info@drainbrain.com	Gen-Eye	1 1/2" to 10"	100' to 400'	DVD/VHS/ SD Card	YES	YES	YES	YES		YES
See ad page 10	<b>Image Inspection Services LTD</b> 4650 50th Avenue SE Calgary, AB T2B 3R4 403-287-1053 Fax: 403-243-4564 www.image-inspect.com sales@image-inspect.com	Image/Prototek/ Spering	1" to 72"	100' to 2500'	CD/DVD/ VHS/ FILM CARDS/ USB	YES	YES	YES	YES	YES	YES
 See ad page 18	<b>J.M. McKinney Co.</b> 12710 Yukon Ave Hawthorne, CA 90250 800-821-7275 Fax: 310-978-2795 www.jmmckinney.com jmco4u@hotmail.com	RIDGID®	1 1/4" to 12"	100' to 325'	DVD/VHS/ DVR		YES	YES	YES		YES
See ad page 12	<b>KEG Technologies, Inc.</b> 644 Church Road Madison, MS 39110 601-855-7851 Fax: 601-855-7850 www.kegtechnologies.net info@kegtechnologies.net	KLEEN-VUE	12" to 96"	1' to 8'	CD/DVD/ VHS/DVR				YES	YES	
See ad page 25	<b>LMK Enterprises, Inc.</b> 1779 Chessie Lane Ottawa, IL 61350 815-433-1275 Fax: 815-433-0107 www.performanceliner.com sales@lmkenterprises.com	Kument/ Insight Vision/IBAK Schwalm Robotics	3" to 24"	100' to 1000'	CD/DVD /VHS/USB	YES					
See ad page 74	<b>M Tech Company</b> 7401 First Place Cleveland, OH 44146 800-362-0240 Fax: 440-646-9953 www.mtechcompany.com sales@mtechcompany.com	CUES/UEMS/ RIDGID®/Goldak	1 1/4" to 60"	30' to 2000'	DVD/VHS/ SD CARD/ DVR	YES	YES	YES	YES		YES
 See ad page 59	<b>MyTana Mfg Co Inc.</b> 746 Selby Ave. St. Paul, MN 55104 800-328-8170 Fax: 651-222-1739 www.mytana.com mytana@mytana.com	MyTana	1 1/2" to 12"	100' to 400'	DVD		YES	YES	YES	YES	YES
See ad page 41	<b>Northcutt Company/Scooter</b> 20843 Santa Lucia Ste. C Tehachapi, CA 93561 800-772-6165 Fax: 661-822-8917 www.tvinspection.com scooter@tvinspection.com	Scooter	2" to 12"	100' to 200'	DVD/VHS		YES	YES	YES		YES
 See ad page 35	<b>PipeLogix, Inc.</b> PO Box 14014 Palm Desert, CA 92255 866-299-3150 Fax: 760-406-6023 www.flexi-data.com joan.stone@pipelogix.com	Flexidata			DVD/VHS	YES					
 See ad page 52	<b>POSM Soft LLC</b> PO Box 1037 Mount Sterling, KY 40353 859-274-0041 Fax: 707-238-1478 www.posm.us info@posm.us	POSM Lite, POSM Pro, POSM Office Server Edition			CD/DVD/VHS	YES					
 See ad page 12	<b>Prototek</b> PO Box 1700 Poulsbo, WA 98370 800-541-9123 Fax: 360-779-1510 www.prototek.net prototeksales@prototek.net										YES
See ad page 58	<b>Pulsar 2000</b> 4131 S Buckner Blvd. Dallas, TX 75227 214-388-8838 Fax: 214-388-3004 www.pulsar2000.com jsmll@aol.com	Pulsar 2000			CD/DVD		YES				YES



DEALER OF PIPE DIAMETER REEL SIZES RECORDING FORMATS SOFTWARE AVAILABLE REPAIR FACILITY PARTS AVAILABLE ACCESSORIES AVAILABLE INSPECTION VEHICLES LOCATING EQUIPMENT

 <b>RapidView IBAK North America</b> 1828 W Olson Road Rochester, IN 46975 800-656-4225 Fax: 574-223-7953 www.rapidview.com info@rapidview.com <b>See ad page 67</b>	RapidView IBAK North America	3" to 120"	200' to 1656'	CD/DVD/VHS/Digital/Digital Video	YES	YES	YES	YES	YES	YES
 <b>Ratech Electronics Limited</b> 260 Spinnaker Way, #7 Concord, ON L4K 4P9 800-461-9200 Fax: 905-660-1519 www.ratech-electronics.com sales@ratech-electronics.com <b>See ad page 15</b>	Ratech	1" to 40"	50' to 1000'	CD/DVD/VHS/HardDrive/Stick/Flash Drive/Memory Stick/SD Card	YES	YES	YES	YES	YES	YES
 <b>RIDGID®</b> 400 Clark Street Elyria, OH 44035 800-769-7743 www.ridgid.com info@ridgid.com <b>See ad page 7</b>	RIDGID®	1 1/4" to 12"	30' to 325'	DVD/VHS/Digital	YES	YES				YES
 <b>RS Technical Services, Inc.</b> 1327 Clegg Street Petaluma, CA 94954 800-767-1974 Fax: 707-778-1981 www.rstechserv.com bobg@rstechserv.com <b>See ad page 26</b>	R.S. Technical	1 1/2" to 200"	150' to 3000'	CD/DVD/VHS/Flash Media	YES	YES	YES	YES	YES	YES
<b>See ads pages 4, 39</b> <b>Shamrock Pipe Tools, Inc.</b> 10928 S. Chactaw Dr Baton Rouge LA 70815 800-633-7696 Fax: 225-275-1340 www.shamrocktools.com dbradford@shamrocktools.com	Shamrock Pipe Tools	3" to 16"	50' to 700'	DVD		YES	YES	YES		YES
<b>See ad page 84</b> <b>Spartan Tool LLC</b> 1506 W Division Street Mendota, IL 61342 800-435-3866 Fax: 815-538-2321 www.spartantool.com customerservice@spartantool.com	Spartan Tool	2" to 8"	100' to 200'	DVR		YES	YES	YES		YES
<b>See ads pages 18, 75</b> <b>T &amp; T Tools, Inc.</b> PO Box 531 Spring Lake, MI 49456 800-521-6893 Fax: 800-521-3260 www.mightyprobe.com sales@tandttools.com	T & T Tools									YES
<b>See ad page 64</b> <b>Telespector Corporation</b> 1460 Opdyke Rd. Auburn Hills, MI 48326 248-373-5400 Fax: 248-377-2250 www.telespector.com info@telespector.com	Telespector	4" to 144"	1' to 1500'	CD/DVD/VHS	YES	YES	YES	YES	YES	YES
<b>See ads pages 29, 71</b> <b>The Cable Center</b> 8318 Olive Blvd St. Louis, MO 63132 800-257-7209 Fax: 314-432-8024 www.cablecenteronline.com info@thecablecenter.com	RIDGID® General Wire	1 1/2" to 12"	100' to 400'	CD/DVD/VHS	YES	YES	YES	YES		YES
<b>See ad page 74</b> <b>TV Ferret Inc.</b> 840 State Rte 50 Burnt Hills, NY 12027 518-399-2211 Fax: 518-399-3118 www.tvferret.com info@tvferret.com	TV Ferret	2" to 60"	50' to 600'	DVR	YES	YES	YES	YES	YES	YES
<b>See ads pages 28, 40, 47</b> <b>Vactor Manufacturing</b> 1621 S. Illinois St. Streator, IL 61364 815-672-3171 Fax: 815-672-2779 www.vactor.com sales@vactor.com	Flow-Cate/Armor Belt Beacon/Sonde Porter	4" to 48"	8' to 1000'	DVD/VHS	YES	YES	YES	YES		YES
 <b>VIVAX CORP.</b> 23 Bland St Emerson, NJ 07630 866-332-1688 Fax: 201-265-5504 www.vivax.biz sales@vivax.biz <b>See ad page 48</b>	Vivax Corp.	2" to 14"	100' to 400'	DVD/120gig Hard Drive	YES	YES	YES	YES	YES	YES
<b>See ad page 69</b> <b>Wohler USA</b> 20 Locust St. Danvers, MA 01923 978-750-9876 Fax: 978-750-9799 www.wohlerusa.com info@wohlerusa.com	Wohler USA	1 1/2" to 8"	65' to 100'	CF Card		YES	YES	YES	YES	YES





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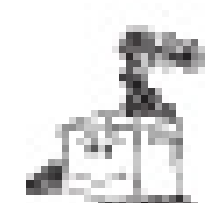
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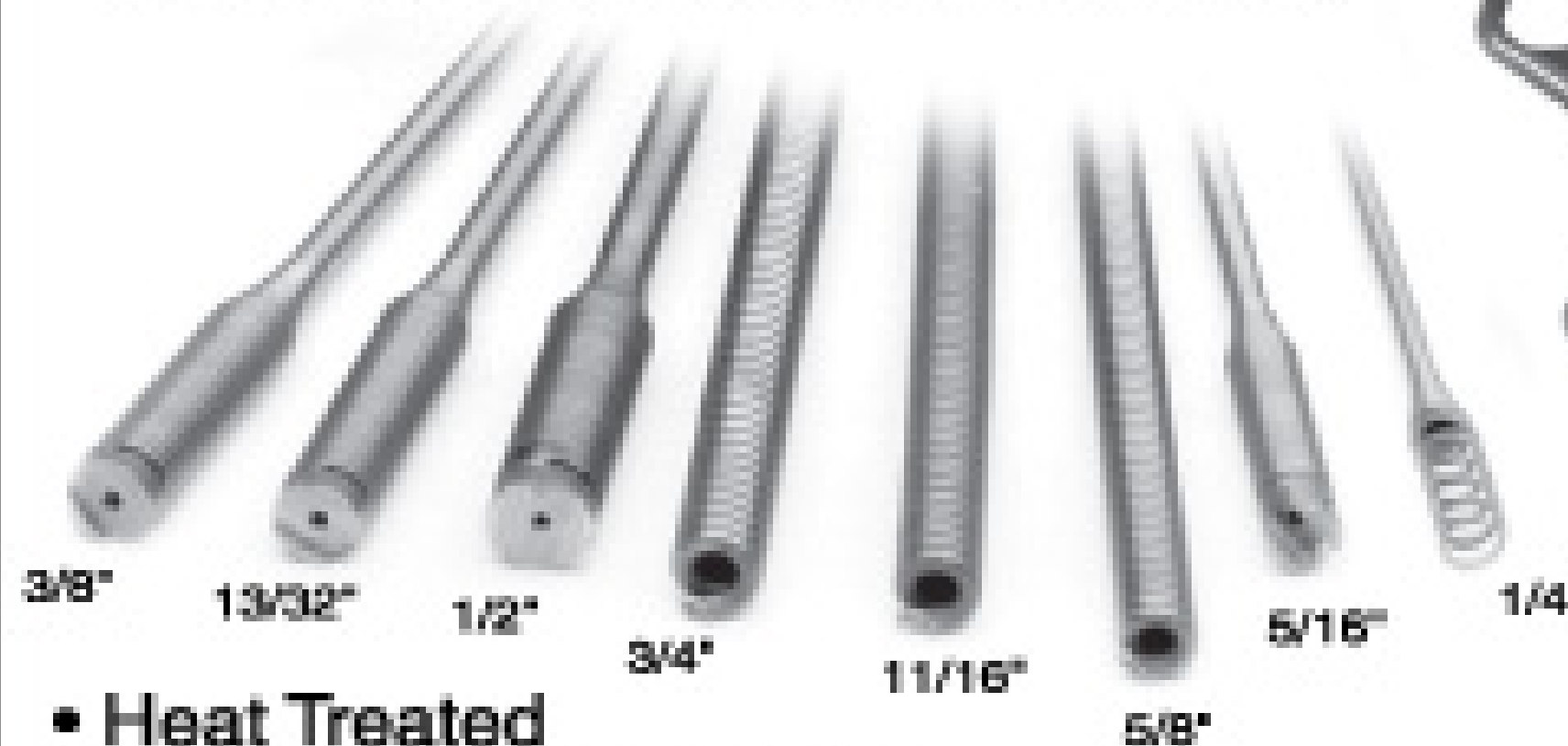
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a full length of 300 feet  
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The Armor Belt innovative sewer hose is designed for extreme-duty applications that require flexibility.

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**HOSE PRODUCTS, INC.**

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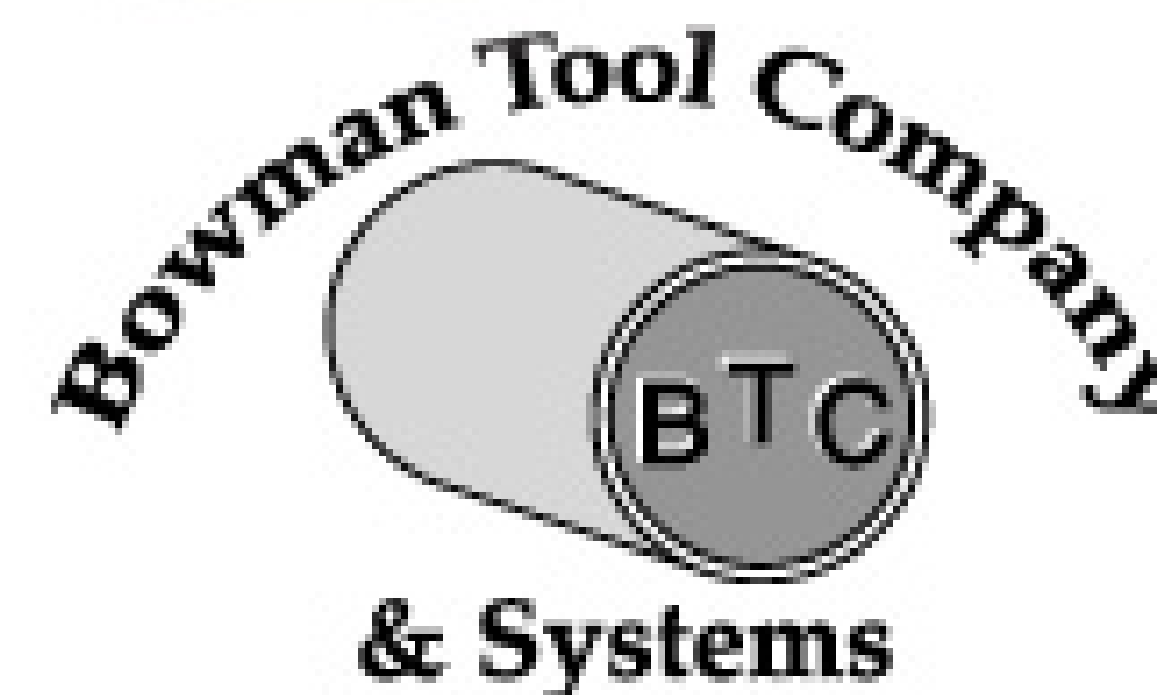
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6"-36" Pipes

6"-36" Pipes

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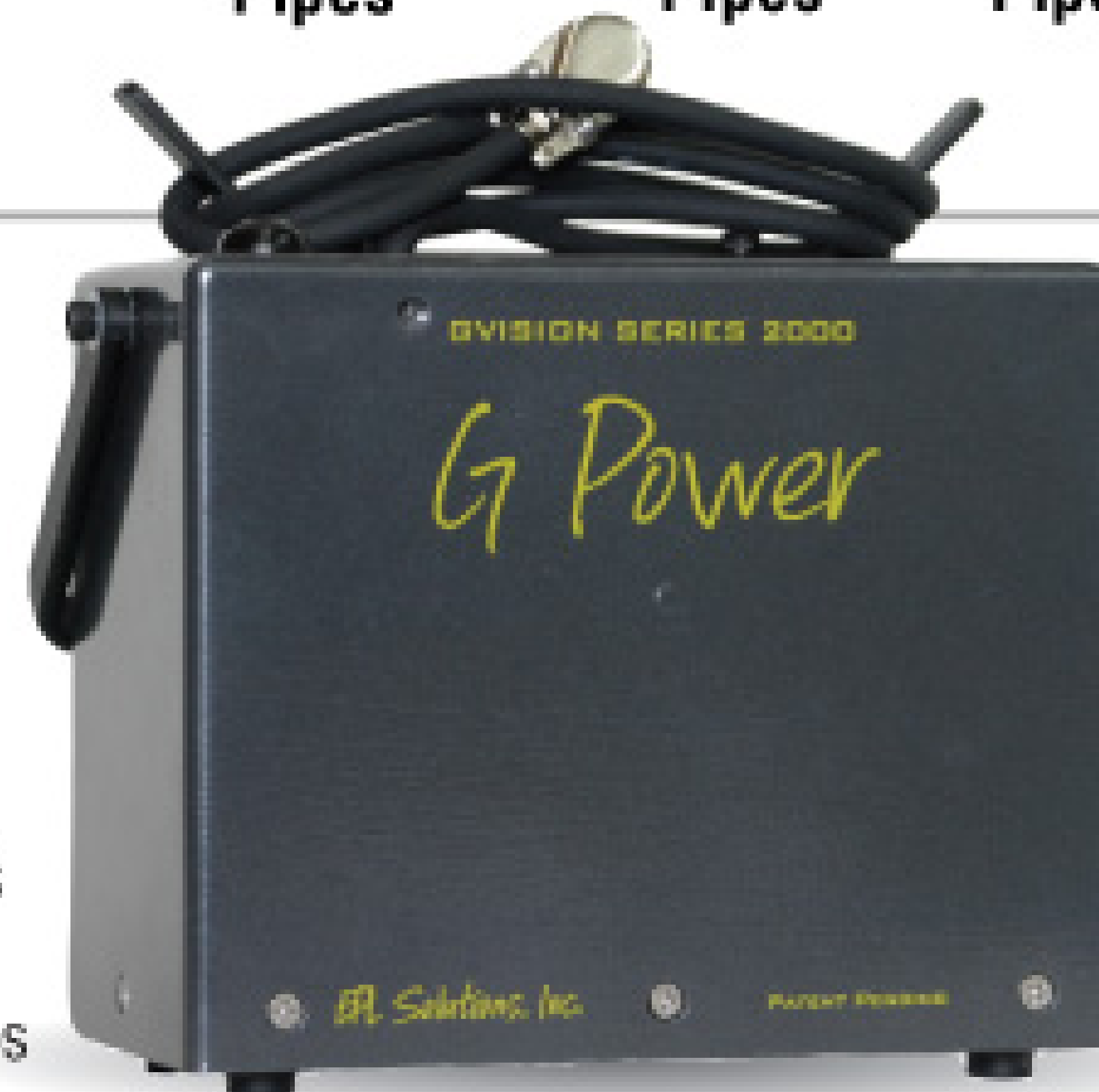
4"-8" Pipes

3"-6" Pipes



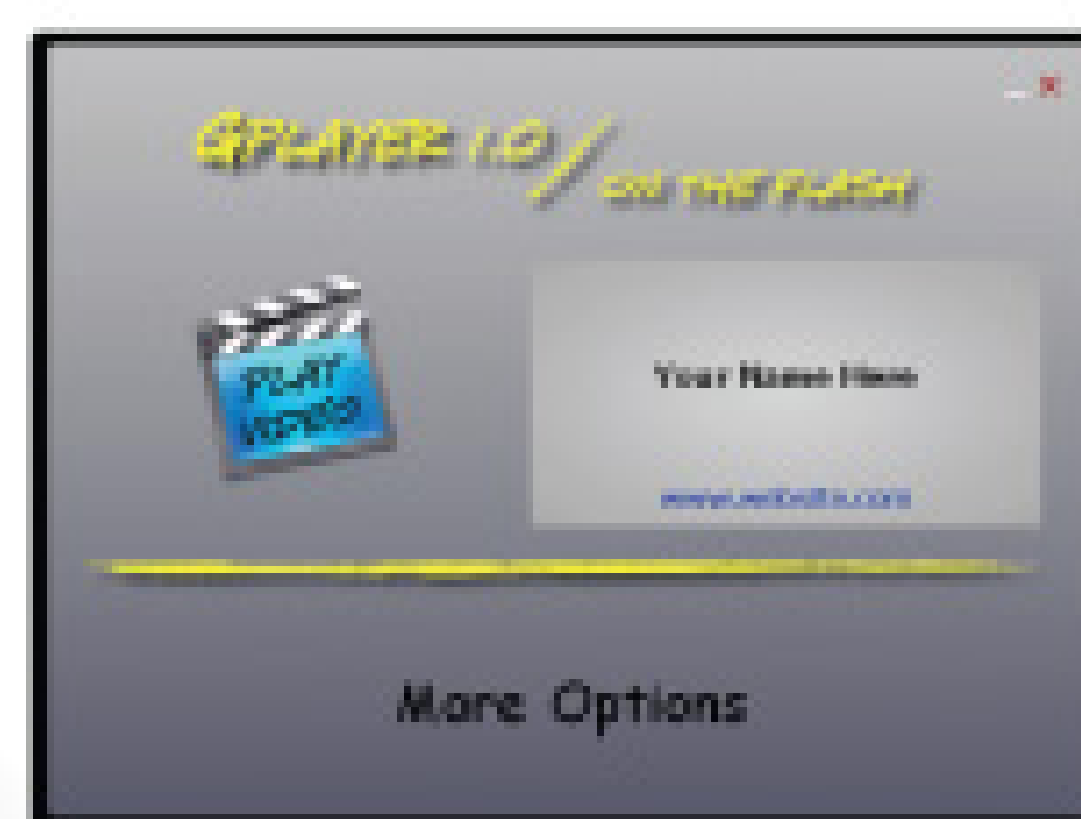
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PHCC MEMBER

# Leading with Vision

**The latest equipment and vehicles and highly skilled operators do not complete a top-quality pipe inspection team. The missing ingredient is an effective manager.**

By Jim Aanderud

A successful CCTV pipeline inspection program requires a state-of-the-art inspection vehicle, a qualified inspection operator, and a competent management team. Of course, the vehicle and operator are obvious, but too often, management is overlooked.

The truth is that without a well-organized management team, most inspection programs will not achieve their purpose. Without proper oversight, the goals that justified the investment will never be reached.

Managing an inspection program doesn't necessarily require field experience. However, to succeed as a manager, you do need to learn as much as possible about the process: vehicles, equipment and the end product. Most of all, it is essential to appreciate the human factor and its functions in the field.

The way to understand the challenges crews encounter daily is to spend time in the field. Seeing firsthand what is possible and what is not will help you make better decisions. These observations reveal the patterns and habits that make a crew successful or not. Ideas then begin to formulate that help streamline the process. In addition, by sitting in the operator's chair, you can gain valuable knowledge through hands-on experience.

## Setting goals

As manager, you must understand the expectations your agency or company had when it entered the inspection business. Whether it was to inspect a percentage of a municipal system each year or build a profitable business, knowing the expectations can help you formulate

the goals needed for success.

Setting goals is critical. Goals are the difference between a proactive inspection program and a reactive one. They set expectations, create a means of measurement, and ensure that a program runs profitably. Without goals, crews operate without direction. They lack a sense of urgency and will tend to be indifferent toward the program.

On the other hand, crews with goals have clear direction and work together toward a common purpose. They are more satisfied with their jobs because they can measure their success. When they meet their goals, they get the sense of satisfaction that they have done a good job and "the boss is happy."

You must first establish realistic footage goals. It may not be enough to accept what the crews regard as satisfactory. If there is any question, you may have to look outside to see what other agencies or contractors are accomplishing.

The ultimate goal is to maximize footage on a daily basis. That means the crews must work continuously. Whenever they are not on break, they need to work steadily and efficiently. It is your job as manager to create a sense of urgency: If the footage goals are not met today, the goals for the week will not be met. If they are not met this week, they won't be met this month, this quarter, or this year.

Monitor daily production constantly. Consistent involvement helps you identify problems much sooner. As patterns begin to develop, you will be able to identify them and correct them before they get out of hand. When crews achieve or exceed their production goals, consistently acknowledge and congratulate them.

*Tech Perspective looks at technology-related issues and provides information and advice that cleaning professionals can apply to equipment selection and to their daily work in the field. Industry members are welcome to offer ideas for this column. Please direct them to editor Ted J. Rulseh, editor@cleaner.com.*



Manager Sean Trammell of Innerline Engineering in California reviews maintenance procedures with Rob Hueners, Jake Ziegler, Jeremy Hartoog, Alan Souza and Chris Bone. (Photo courtesy of Innerline Engineering)

## Striving for quality

Of course, all of the production in the world means nothing without consistent quality. If a crew produces high numbers, but the final product is unusable, the work has been a complete waste of time. One never knows who will look at the end product. An inspection video could wind up in front of the city council and mayor, and in some cases even before Congress.

It is the manager who establishes the level of quality – through tolerance or intolerance. Operators can easily lapse into carelessness if they believe no one ever looks at their videos. Your consistent feedback will keep the operators sharp and focused.

A successful manager must have an attitude that only perfection is acceptable. Operators must understand that only correct data, correct spelling, correct observations and quality video will pass muster. Only then will their level of quality rise.

True quality requires a two-step approach. First, you must enforce a quality-control check by the CCTV operator. After each inspection, the operator must open up the video to make sure that it recorded properly from beginning to end, and to ensure that there is sufficient lighting and adequate sound.

At this time, the operator also must double-check the data, making sure that it is accurate. If there are



**As manager, you must understand the expectations your agency or company had when it entered the inspection business. Whether it was to inspect a percentage of a municipal system each year or build a profitable business, knowing the expectations can help you formulate the goals needed for success.**

any problems, the most cost-effective time to rerun the inspection is while the camera is still in the line. Rerunning the inspection at a later date means unnecessary time and costs.

The next step in quality assurance is the review of all of the videos and reports by a quality-control agent. Any mistakes or bad procedural habits should be documented and returned to the operator and you. Then you can use the information as a teaching tool in the quest to elevate each operator's competence.

Another way to elevate quality is to conduct group reviews of the videos. In this process, various random videos are pulled for each inspection operator. As a group, the operators view the videos and make comments. This process exposes bad habits that can be corrected and holds good habits up to the light so that all operators can adopt them. The ultimate result is a more consistent end product from crew to crew.

**Overcoming field problems**

CCTV inspection is taxing on the equipment. Rarely does a day go by without some sort of malfunction. It is hard to stay productive when a crew finds itself dead-in-the-water. The manager plays a significant part in how a crew handles such situations. The easiest thing to do is just give up and let the vehicle limp back into the yard. But a good manager will find every possible way to keep the crew working.

Because malfunctions are frustrating, operators' judgment can easily become clouded. It is your job to walk them through the solution, either over the phone or in person. Operators find such support highly reassuring, and it can make the difference between a productive or lost day.

In addition, equipment maintenance is important. Without proper maintenance, the vehicle and the CCTV equipment will break down unnecessarily. If the equipment is not functioning, footage goals will not be met. Maintenance must be proactive: Regular vehicle maintenance must be completed on a consistent basis.

Often overlooked is maintenance for the generator. It is vital to check the hours regularly and to follow the manufacturer's maintenance recommendations to the letter. You must set aside time for crews to perform maintenance. In this way, you can reduce breakdowns dramatically.

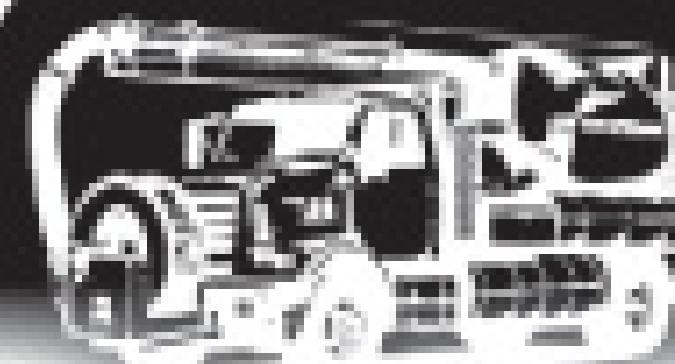
A well-organized maintenance program can save significant time and money. Every maintenance task performed and problem found must be documented on each vehicle and

each piece of equipment. Thorough maintenance records can be a valuable tool when identifying recurrent problems and tracking warranty issues.

**Making it work**

It takes time to become a successful CCTV inspection manager and to build a high-functioning program. Along the way, you should accumulate as much knowledge as possible, and then use it to shape the program. By constantly looking at ways to improve the process, you can streamline your program into a highly productive operation. As underground infrastructures continue to age, the industry needs visionary managers to take pipeline inspection into the future. ■

*Jim Aanderud is owner of Innerline Engineering, a video pipeline inspection company based in Corona, Calif.*



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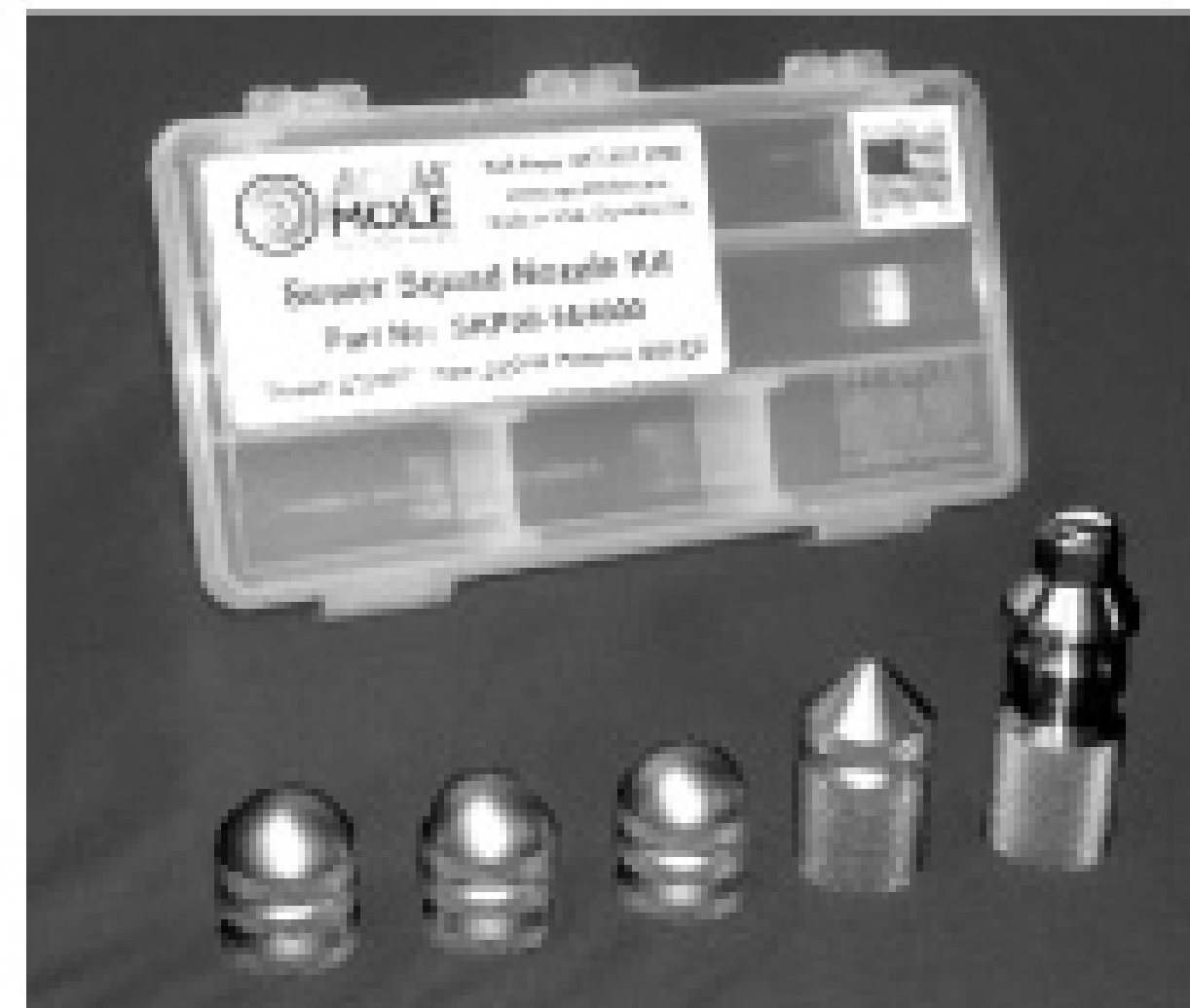
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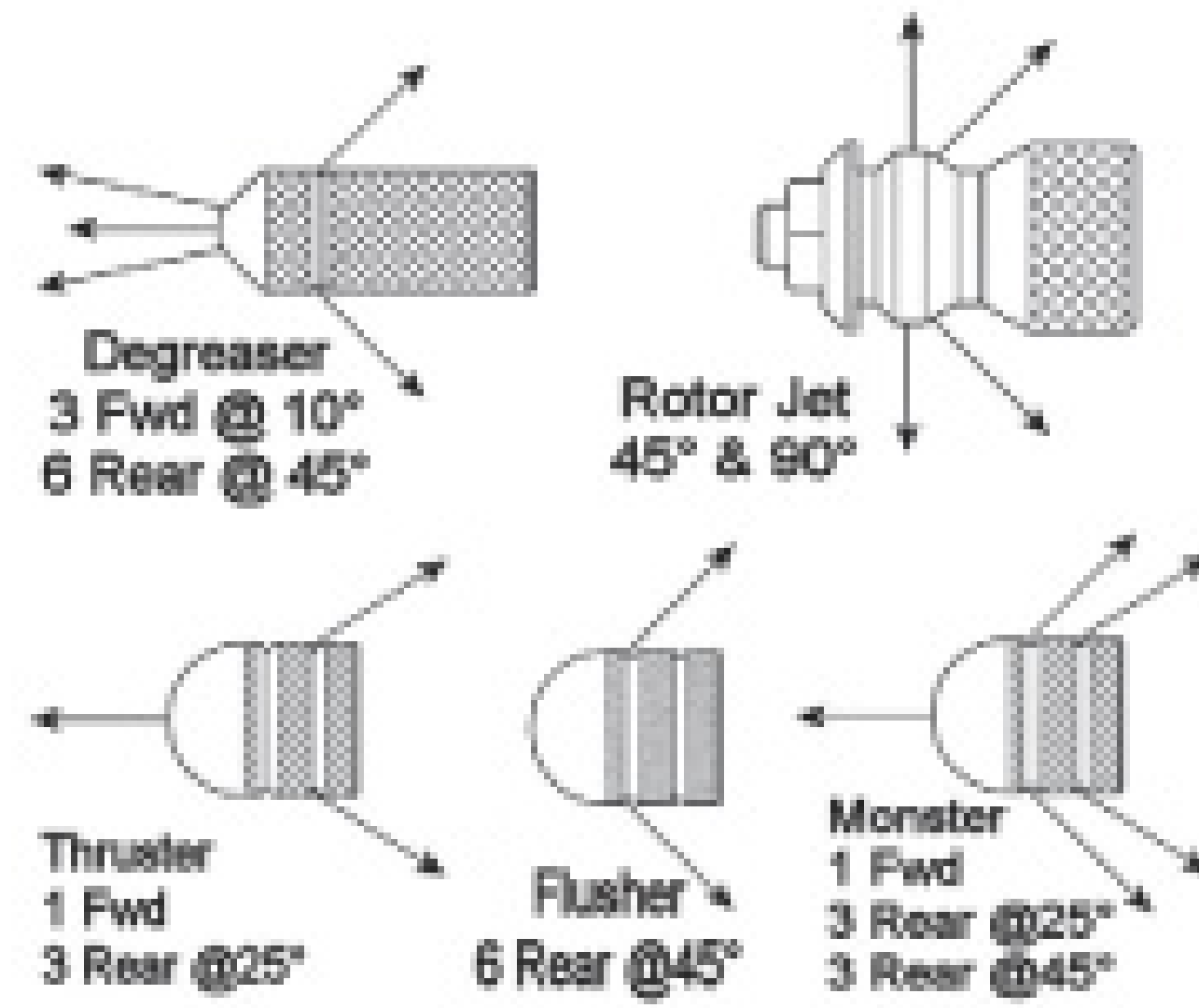
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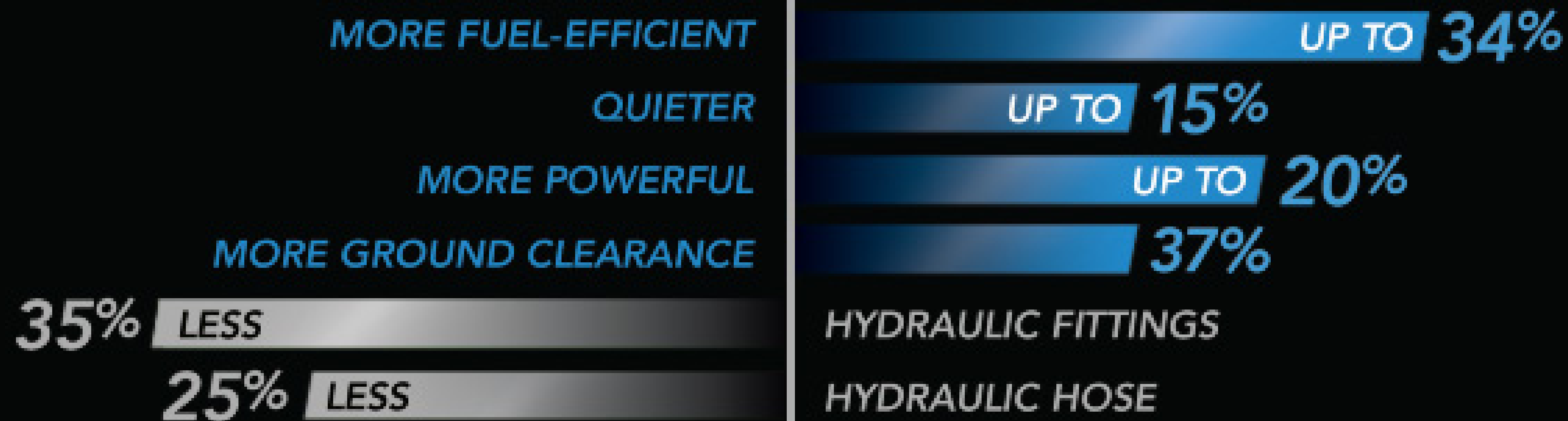


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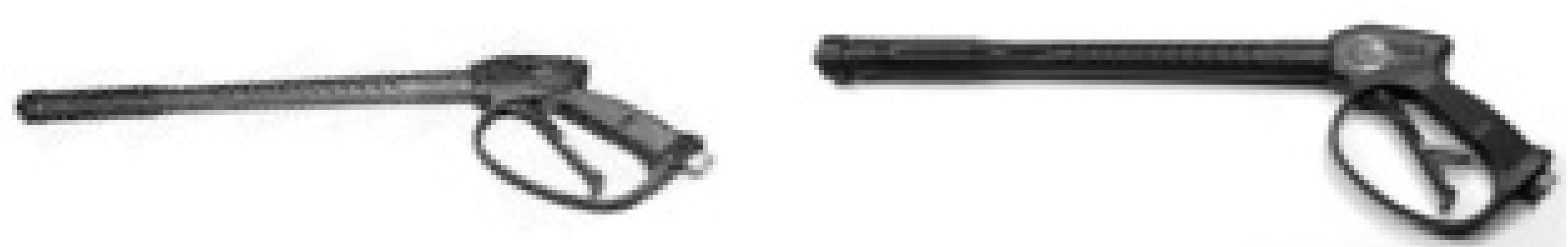
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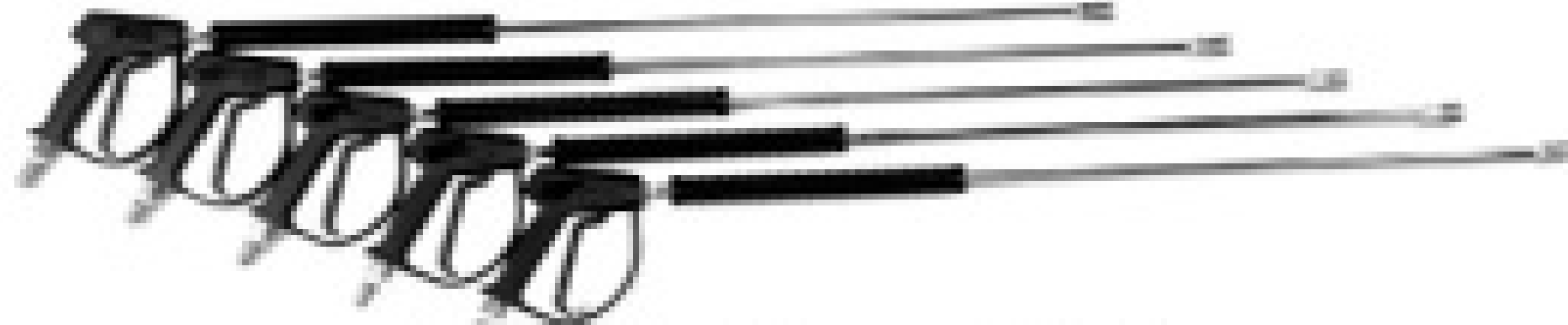
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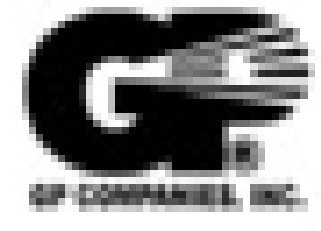


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# Pros and Cons of HSAs

Online discussion forum members share thoughts on the value of health savings accounts as a way to provide affordable coverage

This feature in *Cleaner* reports noteworthy conversations that take place on the *Cleaner Online Discussion Forum*, offered as a service to industry professionals by COLE Publishing. The Discussion Forum enables exchange of information and ideas on pipe cleaning, rehabilitation and maintenance, trucks and equipment, high-pressure cleaning, business improvement topics, and much more. To take part in the forum, visit [www.cleaner.com](http://www.cleaner.com).

## Question:

Does anyone out there use Health Savings Accounts (HSAs) to help defer the costs of employee health insurance benefits? From what I understand, you can raise your health insurance deductibles and fund an HSA to help cover the cost. Does anyone have this system in place who can let us know if it works? Our health insurance provider is trying to steer us down this path.



## Answers:

We have an HRA (health reimbursement account). We place a set amount of money in each employee's account, and the insurance company pulls from that and applies it to their deductible. Once that account is empty, the employees are then responsible for covering their deductible out of pocket.

This is our second year with an HRA. It was the most economical for us and our employees and has worked out pretty well. It works best for those employees who do not go to the doctor much, because we are paying the first part of the deductible. They end up not paying anything out of pocket.

□□□

The only problem I have with this is to get my technicians to understand how the high deductible is a benefit to them. Until they pay the monthly rate on other insurance programs, plus the 20 percent co-pay, you have nearly paid the high deductible and will still owe the 20 percent of all medical bills. They hear the \$5,000 deductible amount, and they freak. Go figure.

□□□

I've had an HSA through a different employer, as an employee. The great thing for me is that even the mileage to the doctor, pharmacy or hospital, counts at 27 cents per mile. Everything comes tax-free with each payroll deduction.

My account had two bad parts though. First, paperwork. Every time I used it, a copy of the receipt, mileage log and submission form had to be mailed to the account manager (or faxed). Second, my account didn't roll over, so if I didn't use it all in a year, the extra money was lost. I urge you to find an HSA with debit cards. It saves a ton of paperwork for the user.

□□□

I have an HSA to back my \$10,000 deductible. My insurance cost was cut by 50 percent when I changed from a \$5,000 to \$10,000 deductible. I wish Uncle Sam would let me put more than \$3,000 per year into an HSA. ■

□□□

I have an HSA. My deductible is high, and payments are under \$100. I am so glad that I set it up that way. I had a total hip replacement, and they paid 100 percent after the deductible. You also get the insurance rates on doctor visits and prescriptions. One of my medications used to cost me \$27, and now I pay \$7.40.

I like the fact that you can add funds to the HSA and once the deductible is built up, you can use a card like a credit card to pay medical expenses through your HSA account. With the HSA I have, you don't need a doctor to refer you to another doctor. That's your call – just

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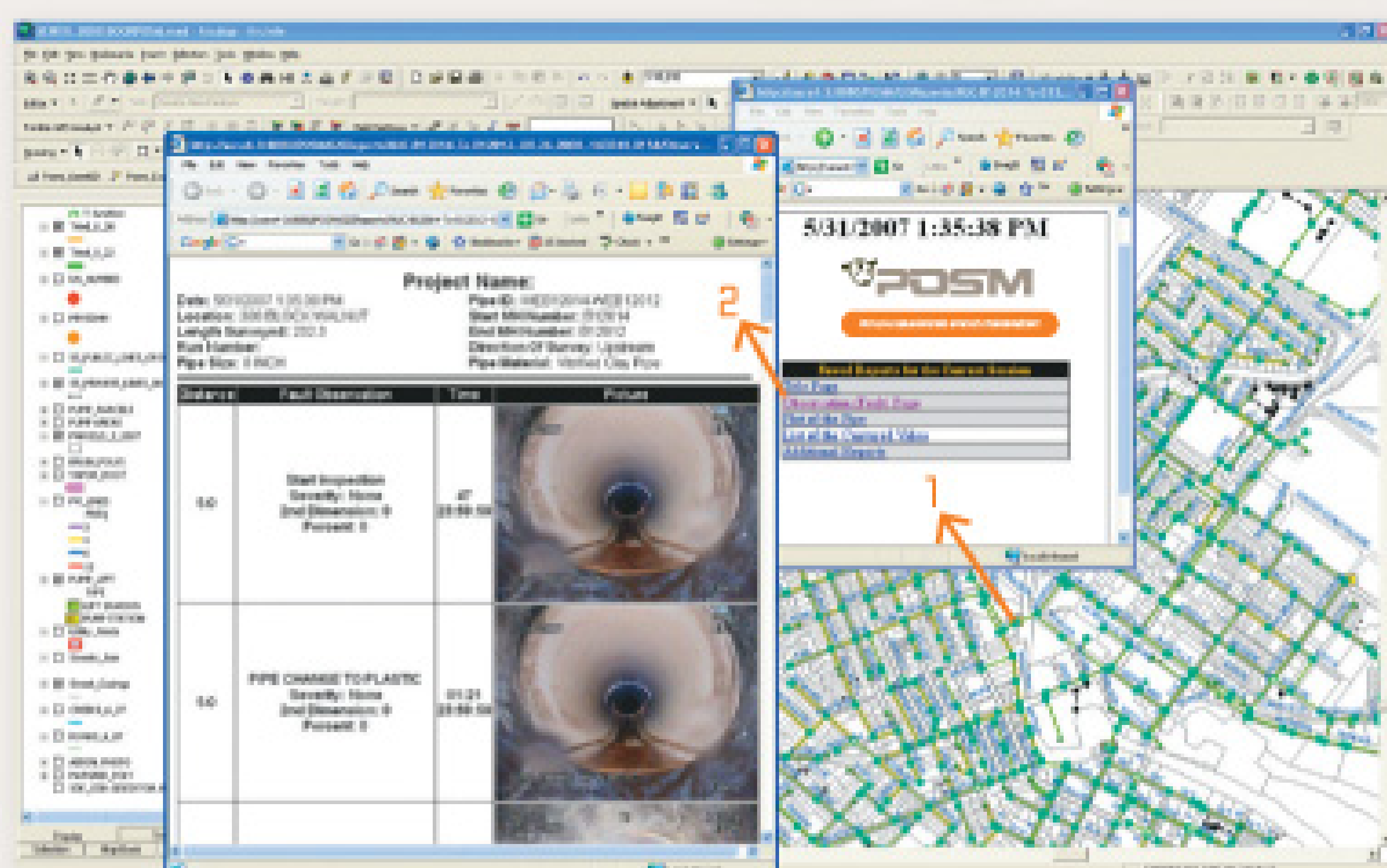
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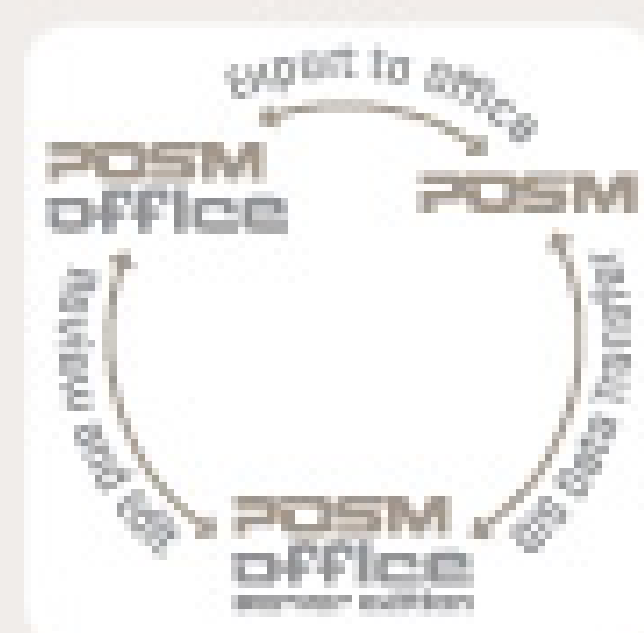
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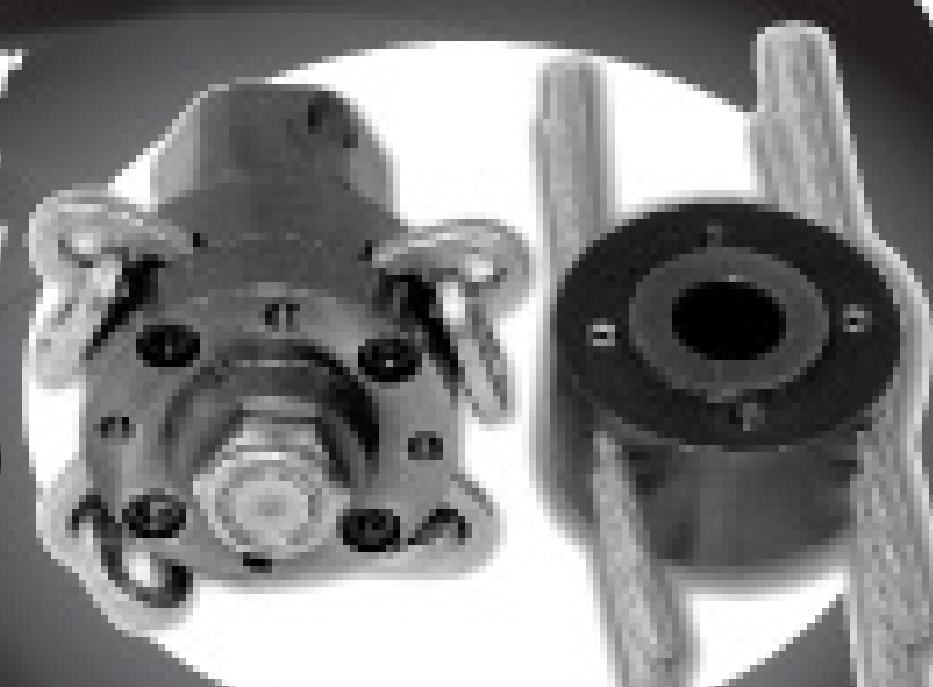
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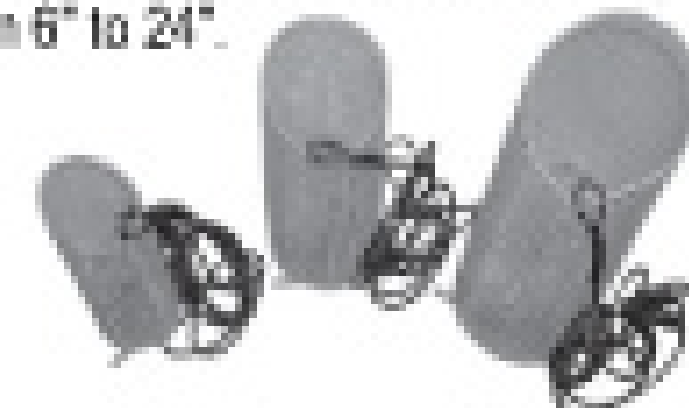
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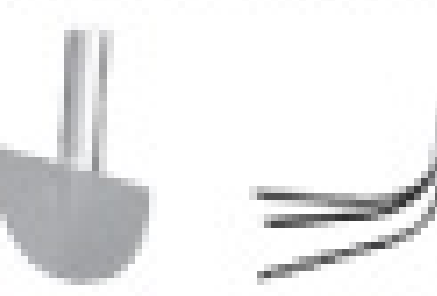


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# Industry

## NEWS

### Gardner Denver Marks 150th Anniversary

Gardner Denver Inc., Quincy, Ill., marks 150 years of manufacturing this year. The fluid transfer technologies company was founded by Robert Gardner, who manufactured the first effective speed controls for steam engines in 1859.

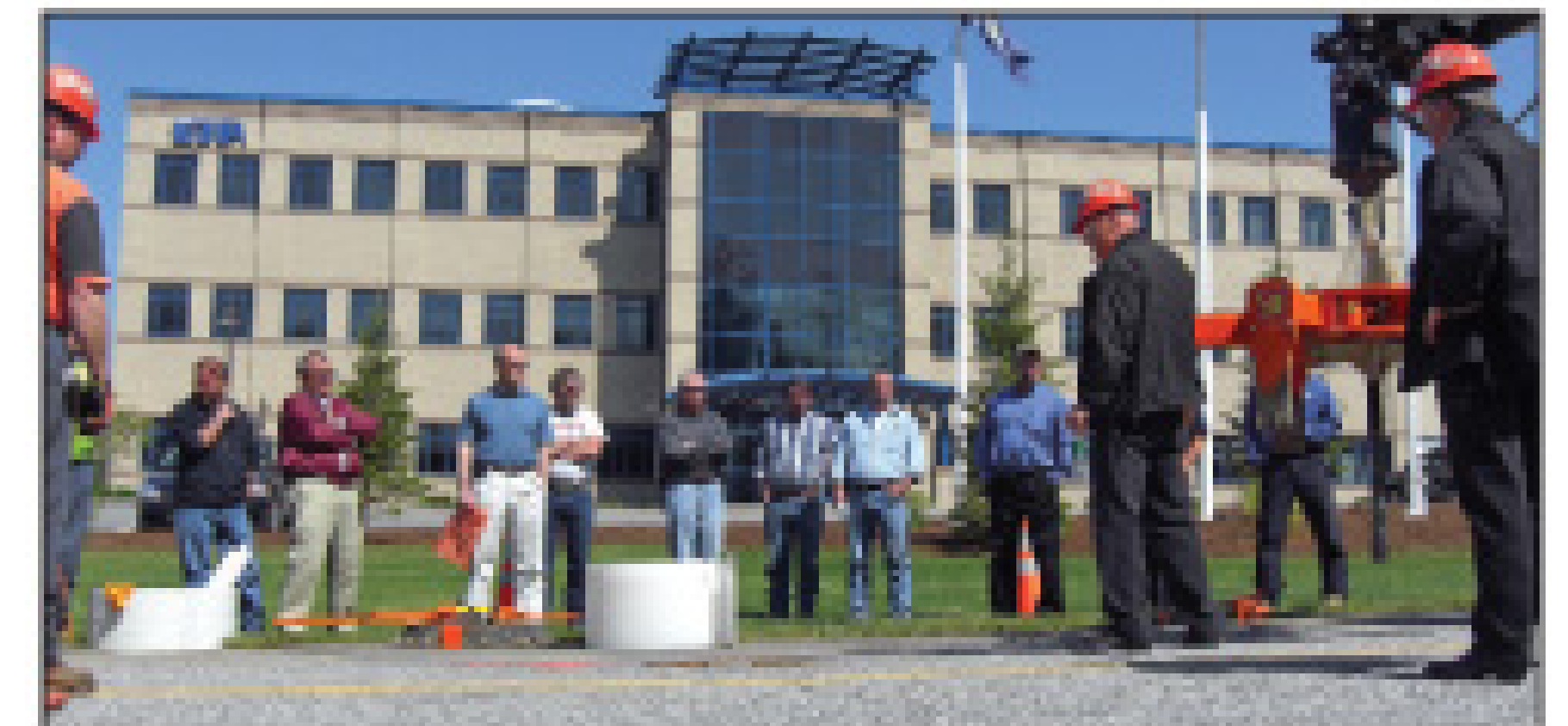


### NLB Moves to Larger Location

NLB Corp. has moved its Houston-area Texas branch to a 10,800-square-foot facility in LaPorte, Texas. The facility is nearly twice as large as its previous location. The facility has an 800-square-foot showroom, service area, parts department and training room for customers and maintenance personnel.

### Mr. Manhole Expands into Maine

Mr. Manhole has partnered with Everett J. Prescott Inc., Gardiner, Maine, to be its distributor in Indiana, Ohio, New York, Massachusetts, Connecticut, Rhode Island, Vermont, New Hampshire and Maine.



### Inland Pipe Names Bellora CFO

Terry Bellora has been named chief financial officer for Inland Pipe Rehabilitation. He will oversee financial operations, planning, reporting and risk management for the company and its 400 employees. Bellora has a Bachelor of Science Degree in business administration and accounting from Pittsburg State University. ■

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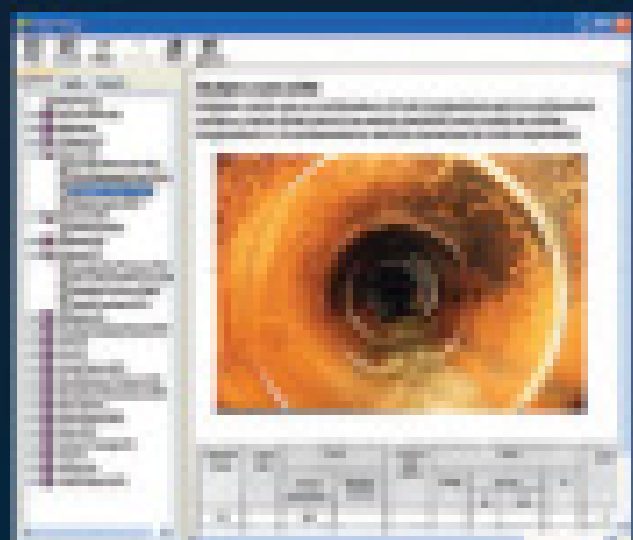
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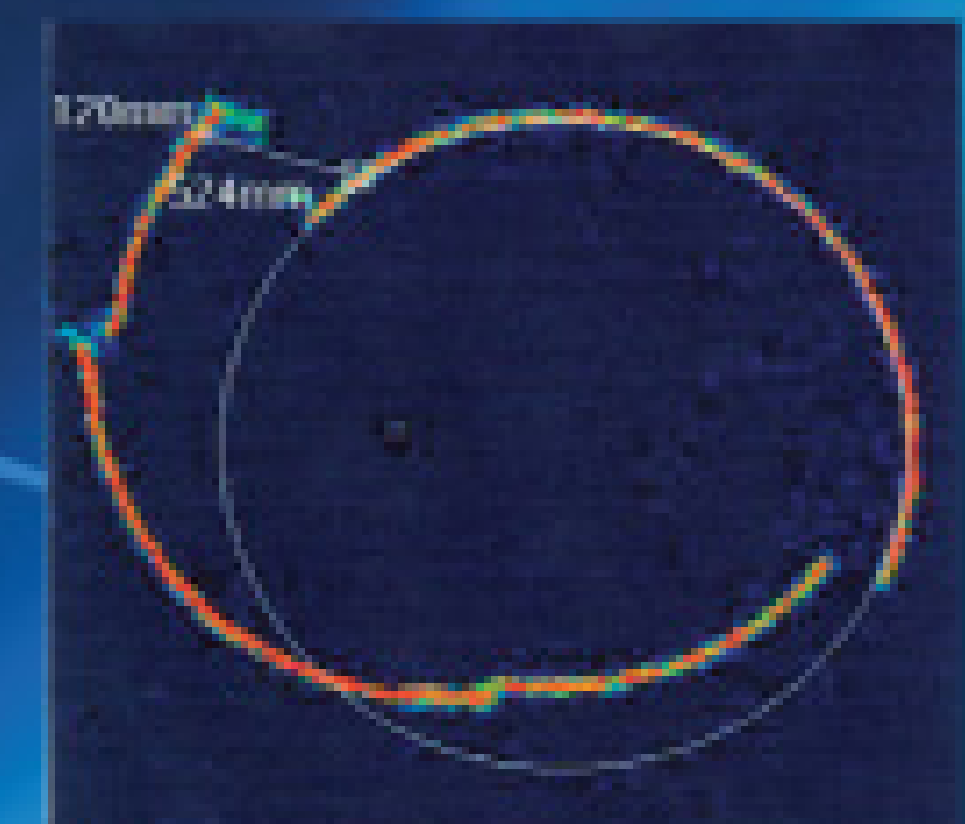
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# Buy Your Competitor?

The purchase of another company in your field can be a quick way to expand, but you have to proceed with due diligence

By Erik Gunn

**A** challenging business climate might not put expansion on the top of your priority list, but there may be some good reasons for you to think about growing the business now – or as the economy bounces back.

You could start the ball rolling

price, though. If there's no real urgency, your seller will hold out for the best offer he or she can get. After all, the proceeds from the deal may be funding a retirement, or perhaps a trust fund for children or grandchildren. Those will be powerful motivations to try and win a few extra dollars at the negotiating table.

course. If your competitor is retiring, the answer of when is elementary. If failing, the same. Beyond that, the decision of when will depend on other factors: Can you get financing? Is the price good (perhaps because of tough economic times)? And are you ready to take on the new responsibility of a bigger business?

## What stands in the way?

Potential obstacles to a buyout include the reputation of the firm you're buying, the sort of liabilities it has, and whether you will have a business relationship with the seller after the deal is finished.

Financing is another hurdle. If you're buying a healthy business

Sometimes good matches can be made between a pair of thriving companies.

In that case, you're not so much buying out a competitor as potentially getting "married" to him or her.

If the competing owner plans to stay on, you'll need to take time getting to know that person to make sure the two of you are compatible.

by investing in new equipment with an eye to moving into a new territory next to the communities where you already do business. Or you could redouble your efforts to grab more market share where you already operate.

But if you're contemplating growth, there's another option: Buy out a competitor.

Buying another shop in the same line as yours, whether down the street or in the next town or county over, can be a quick way to enlarge your operations, and your bottom line. To be sure, there are pitfalls – some financial, others in the tricky area of emotions.

They don't have to stop you, though, as long as you're careful. Like any major decision, buying a competitor can entail risk. But it also can pay off handsomely.

## Whom to buy

One obvious prospective target business is one in which the owner is getting ready to retire and looking to cash out. That kind of deal is likely to be low-key and comfortable for both parties.

Don't expect to pay a fire-sale

Another prospect could be a struggling business. You might get a pretty good deal here, but you'll have to be careful. The operation you purchase might be having trouble because of poor practices, and if you take it over, you'll need to restore its reputation.

The quickest solution then will be to let the older business brand disappear and replace it with your own, assuming you've built a strong reputation over the years. But you should probably consider building into your cost calculations what it will take to launch an advertising campaign that helps your new operation stand apart from the poorly run one you're taking over.

Sometimes good matches can be made between a pair of thriving companies. In that case, you're not so much buying out a competitor as potentially getting "married" to him or her. If the competing owner plans to stay on, you'll need to take time getting to know that person to make sure the two of you are compatible.

## When to buy

The time to buy is closely tied to whom you're going to buy, of

Erik Gunn is a magazine writer and editor in Racine, Wis., where he operates Great Lakes Editorial Services, consulting for businesses, nonprofits and individuals. Readers may direct inquiries to him by contacting this publication at 800/257-7222 or e-mailing [editor@cleaner.com](mailto:editor@cleaner.com).





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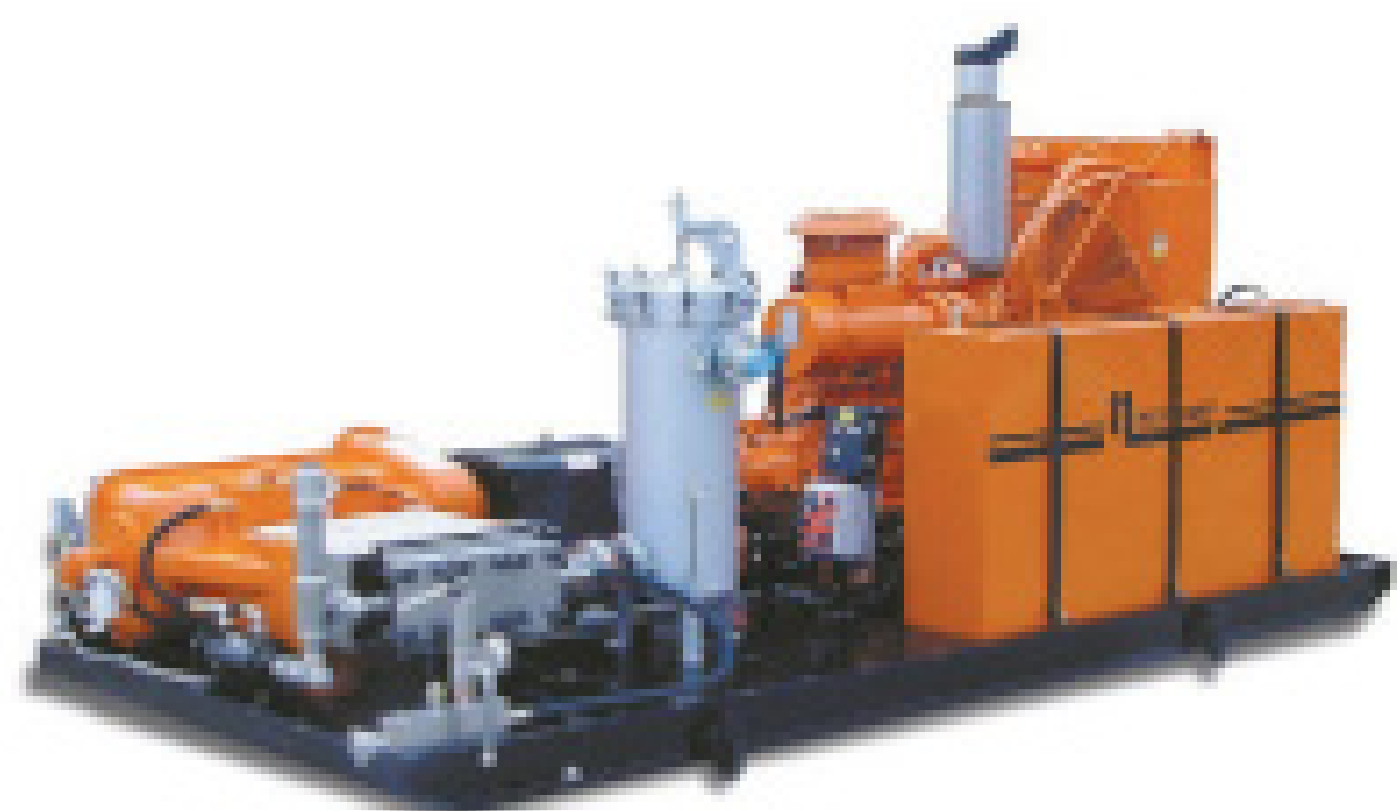
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15145D	13	15,000
10145D	19.5	10,000
8145D	24.5	8,000
6145D	32.5	6,000
Model 125 (125 HP)		
24125D	7.5	24,000
20125D	9	20,000
15125D	12	15,000
10125D	17.5	10,000
8125D	22	8,000
6125D	29	6,000
Model 115 (115 HP)		
24115D	6.5	24,000
20115D	8	20,000
15115D	10.5	15,000
10115D	15.5	10,000
8115D	19.5	8,000
6115D	26	6,000

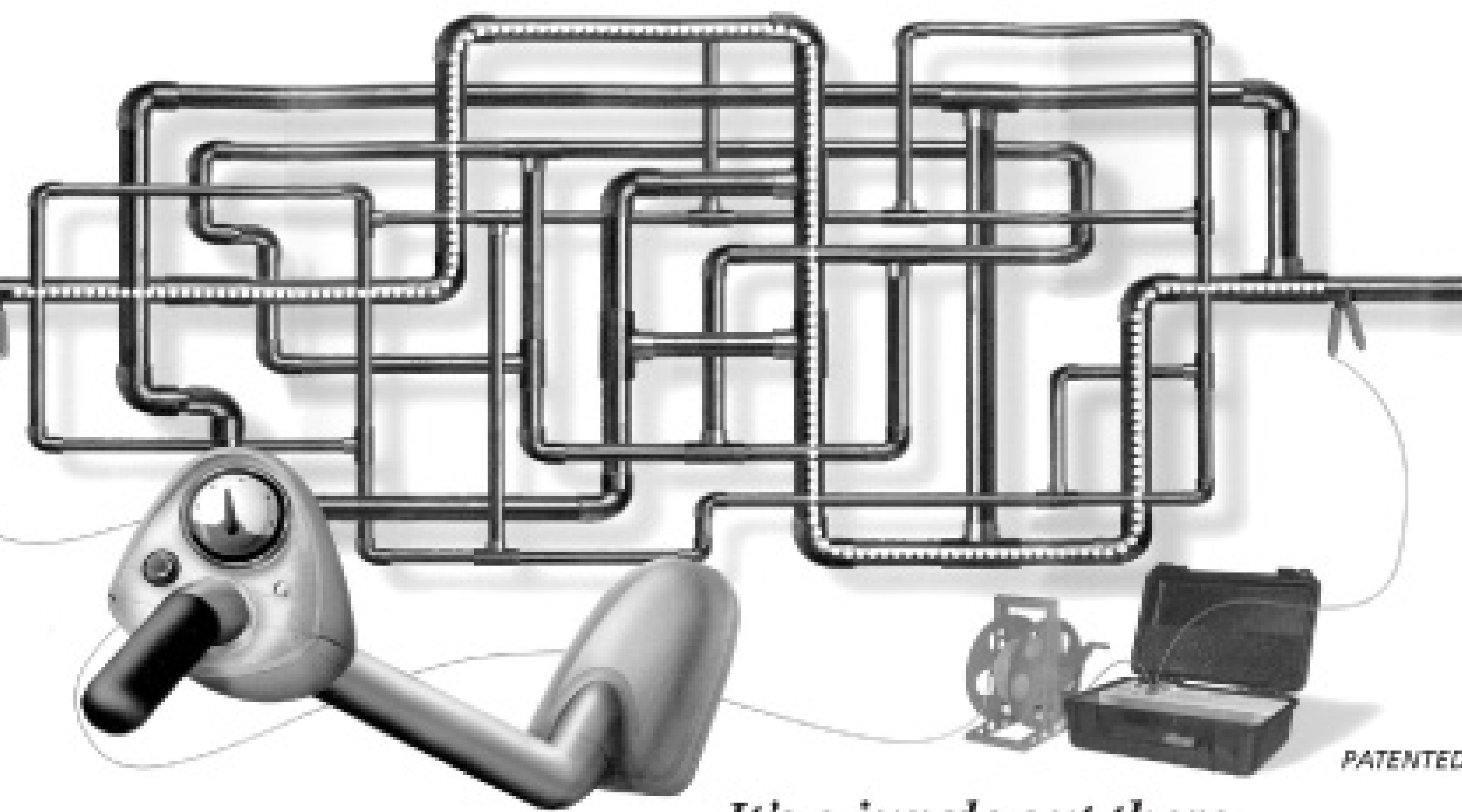
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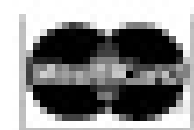


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# Is Your Company Stuck in the Muck?

Taking your company to the next level means learning to delegate authority, hiring the best people, and replacing yourself with systems

By George Hedley

**I**s your business growing and giving you the results you wanted when you started your entrepreneurial journey? Or are you stuck in the muck and can't seem to get moving?

As small companies begin to grow, they get bogged down, hit challenges, and find roadblocks that hold them back. These include lack of time, energy, money, people and customers. Many business owners stay paralyzed forever and can't let go or grow. They feel they have to make every decision and hold tight to the controls. Entrepreneurs typically go through a progression:

- Level 1: Worker, employee, manager.
- Level 2: Small-business owner: Hands-on controller and supervisor.
- Level 3: Entrepreneur: Business builder and grower.
- Level 4: Systematized and organized company.
- Level 5: Company owner: Opportunity seeker.

## Bitten by the bug

Before small business owners start their companies, they're usually competent employees or managers doing a great job for their boss. They're responsible and accountable, they're hard workers, and they dream about the day they can start out on their own.

Then it finally happens! They get bitten by the E Bug (E for Entrepreneur). These newly minted entrepreneurs announce they have quit their jobs to start their own companies. After the initial shock, many ask where this new entrepreneur will find the money to get started, attract customers, hire good employees, and pay the bills. Without fear, the new entrepreneur says: "Don't worry. I'll figure it out!"

Once infected, the entrepreneur starts the company and steps up to Level 2 as a small business owner. Here, he or she is in charge of every decision: fully in control of every moving part, supervising every little item, transaction, customer, proposal, invoice, vendor and employee. The owner is the business, and without the owner, there is no business.

## Getting stuck

Take Bill, for example. Bill started a successful

business seven years ago. It grew quickly to \$1 million in sales with 15 employees. Then it stopped growing, and his profits began to shrink. He was stuck at Level 2. When his company was smaller, it was easier for him to act as the ring-leader, process the workflow, and meet with customers to keep them happy. But now he had to work harder and harder to keep the company above water.

Bill was frustrated. While he had managers and key employees, he didn't delegate much responsibility. He still approved every estimate, purchase, shipment, order and personnel move. When he started out, he had time to find new customers, manage the work, and make sure everything went well. Now, that wasn't happening, and customers were demanding better prices and faster service. Bill was stuck, and his old ways weren't working.

Most entrepreneurs remain sole practitioners and stay at Level 2 forever. They grow to two men and a truck, or to eight employees at one location or to three managers and 20 employees. But when the company gets to a level where the owner can't control everything, it stops growing.

The owners know they need to do something different: let go, hire better people, delegate, install systems, find better customers, improve services. But they don't know what to do next.

## Turning the corner

When you get stuck, you hate going to work because you have more demands and pressures than you can handle. So what should you do to get unstuck and grow your business? Here are five basic concepts:

**1. Refocus on what you want.** Stop and remember your original dream of owning a growing and prosperous company that achieves your vision and goals – a company that is organized and profitable, has lots of great customers, is run by an empowered management team, and gives you freedom and time to enjoy life.

**2. Realize that you are a business builder.** You will never reach your goals if you don't grow. Are you too busy working to make any money? To grow, you've got to let go, delegate, and do what you do best. Growth starts with customers who want what you sell. And you are the best salesperson

in your company. You must make time to go out and build relationships with loyal customers plus find new ones.

**3. Replace yourself with systems.** In order to delegate to your team, you need systems and procedures that don't rely on you dictating and directing every move and decision on every transaction. Put your standards on paper and train your people to follow them. This is how you get beyond you as the business. Systems allow you to get out of doing and supervising the work, and create time to make building your business the top priority.

**4. Hire the best.** Now that you know where you are going and have systems in place, you can start to build a strong management team prepared to take your company to the next level. But remember, good people without written systems can't do a great job without your constant input.

**5. Enjoy the ride.** With your company organized and growing, you can now focus on creating more opportunities for your business to prosper.

## Doing it differently

As Bill's company grew, he learned to delegate more responsibility to his managers. As they stopped relying on Bill to make decisions, they started to see the company's potential and got excited about their new roles and responsibilities.

In order to grow, they next needed to standardize their operational systems. Now, with managers in charge, they would have to get everyone trained to do things the same way through specific systems and procedures.

As his managers began to install systems, Bill gained more time to meet with existing and potential customers and look for better ways to serve them. He began looking for opportunities to expand into new services and products. Profits began to rise, his equity and net worth grew, and free time became more available. Bill had gotten out of the muck, and his business was working.

To get unstuck, what will you do differently to get your business to deliver exactly what you want? Decide what you'll do to make this happen. Get unstuck and out of the muck. ■

This article is based on the book *Get Your Business to Work!* by best-selling author George Hedley. As a professional speaker and business coach, Hedley helps entrepreneurs and business owners build profitable companies. Reach Hedley at [gh@hardhatpresentations.com](mailto:gh@hardhatpresentations.com) or find out more about his services at [www.hardhatpresentations.com](http://www.hardhatpresentations.com).







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# Second Honeymoon

**A Florida cleaning contractor renews a long-standing relationship with a beloved vacuum truck through a top-to-bottom makeover**

By Ken Wysocky

**B**reaking up is hard to do, and that includes letting go of an old and reliable combination truck. Just ask Sean Fucarile of Culpepper Plumbing Inc. in West Palm Beach, Fla., who couldn't bear to end his eight-year relationship with a 2000 Vactor 2100.

road for us to take. It was like getting a brand-new truck for half the price."

## The best equipment

Fucarile chose a complete overhaul because he refuses to skimp on equipment. "We do a lot of jobs that no one else will touch, and we can only do that because we have decent equipment," he says. Based on a Sterling chassis, the truck has a 12-cubic-yard debris tank; a 2,500-psi/80-gpm water pump; a Roots blower by Dresser Inc. that generates 3,500 cfm/15 inches Hg; and a 12-foot boom with a 6-foot extension.

The main reasons that Fucarile bought the truck, for its large debris tank and water tanks (three that hold 1,500 gallons), remain valid. "The debris tank capacity was a big plus," he says. "We can do anywhere from four to six jobs a day without going to the dump to unload, as opposed to two, maybe three jobs a day, with less capacity.

## MONEY Machines

Instead, Fucarile spent \$155,000 in late 2008 to have a Vactor facility in Alabama refurbish the vehicle, which Fucarile depends on to clean lift stations, grease traps and commercial and municipal drain lines.

"This baby now has a new motor, a new transmission, new hydraulic lines, new air lines, a new paint job, new air-ride seats – you name it, we had it done," says Fucarile, who co-owns Culpepper with his father, Tom. "The truck was paid for, so refurbishing was a better

## MONEY MACHINES

<b>OWNER:</b>	Culpepper Plumbing Inc., West Palm Beach, Fla.
<b>FUNCTION:</b>	Municipal and commercial drain cleaning
<b>VEHICLE TYPE:</b>	2000 Vactor 2100 on a Sterling chassis
<b>PRIMARY EQUIPMENT:</b>	12-cubic-yard debris tank; water pump (2,500 psi/80 gpm); Roots blower by Dresser Inc. (3,500 cfm/15 inches Hg); 12-foot boom with 6-foot extension
<b>COST:</b>	\$155,000 to refurbish
<b>WEB SITE:</b>	<a href="http://www.culpepperplumbinginc.com">www.culpepperplumbinginc.com</a>

"That saves us from blowing two hours at the treatment facility, which is what it usually takes by the time you drive there, check in, wait in line, dump and get back on the road. We can go almost a full workday without dumping. And without the large water capacity, we'd have to run out and keep finding fire hydrants to refill."

Fucarile likes the extendable boom because often fences and shrubs surround lift stations, keeping

drivers from pulling up close to work. He also likes the truck's internal tank washer, which removes debris that sticks to the tank. "Once you engage the cleaner, it sprays water under high pressure, which does 90 percent of the work for you," he says.

## Always eye-catching

Thanks to some creativity, the truck also advertises Culpepper, which has been in business for more



Culpepper Plumbing Inc. had its 2000 Vactor 2100 truck completely refurbished. Based on a Sterling chassis, the truck has a 12-cubic-yard debris tank, a 2,500-psi/80-gpm water pump, a Roots blower from Dresser that generates 3,500 cfm/15 inches Hg, and a 12-foot boom with a 6-foot extension. (Photo courtesy of Culpepper Plumbing Inc.)



than 30 years. Dottie Stonestreet, general manager, came up with an eye-catching, trademarked company mascot: a red pepper holding a telephone. It's a visual and phonetic play on the company name (as in "call pepper").

"Our trucks are on the road all day, every day, so a lot of people see them," Fucarile notes. "The logo and slogan get a lot of attention. I definitely think we get business calls from people because they see the trucks on the road. The trucks also look great because we keep them clean. I'm pretty particular about keeping them washed."

The Vactor unit is clearly Fucarile's pride and joy, and he's delighted that he could keep it in the family. "It looks like a million bucks," he says. "It's my showpiece - my baby." ■

**MORE INFO:**

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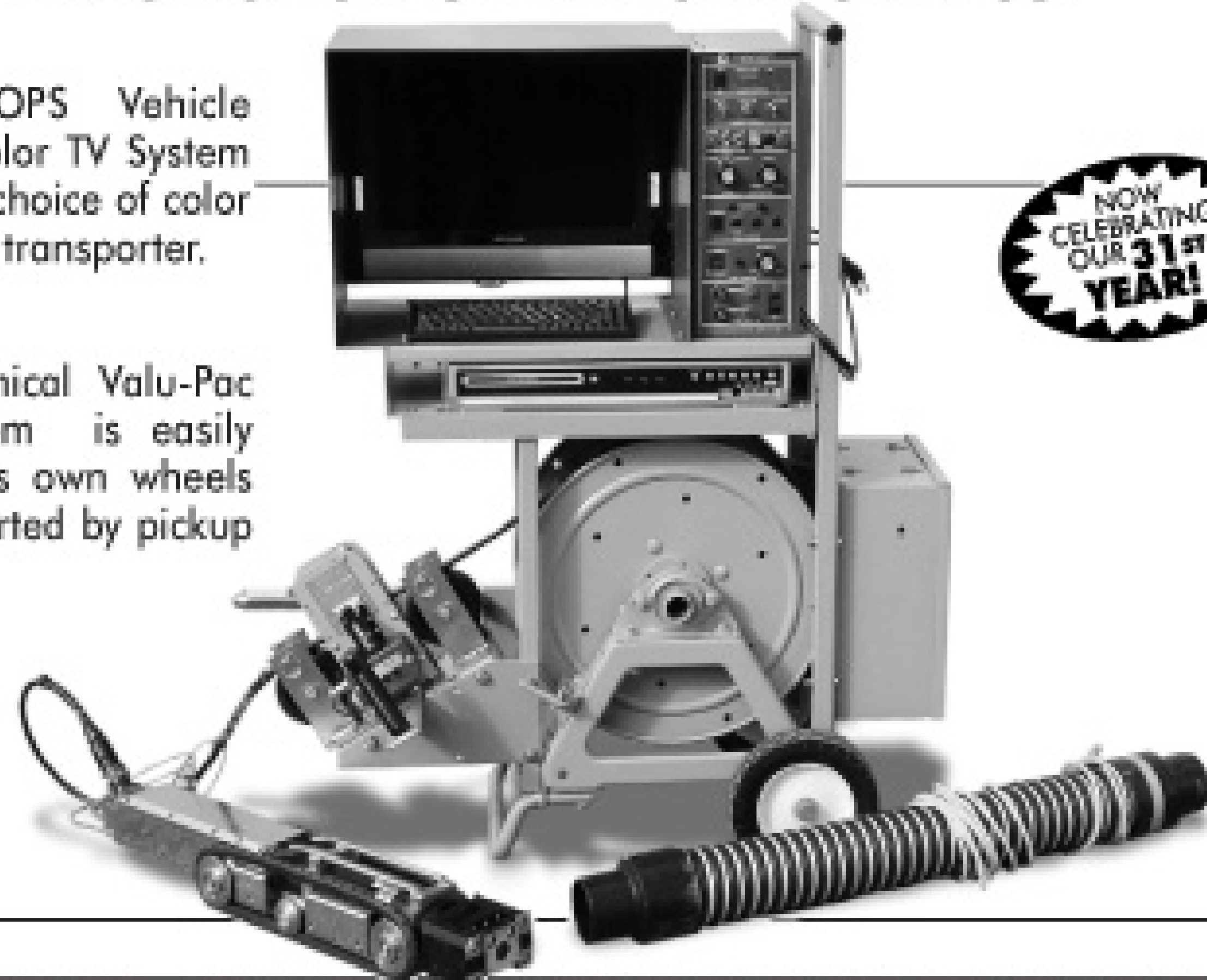
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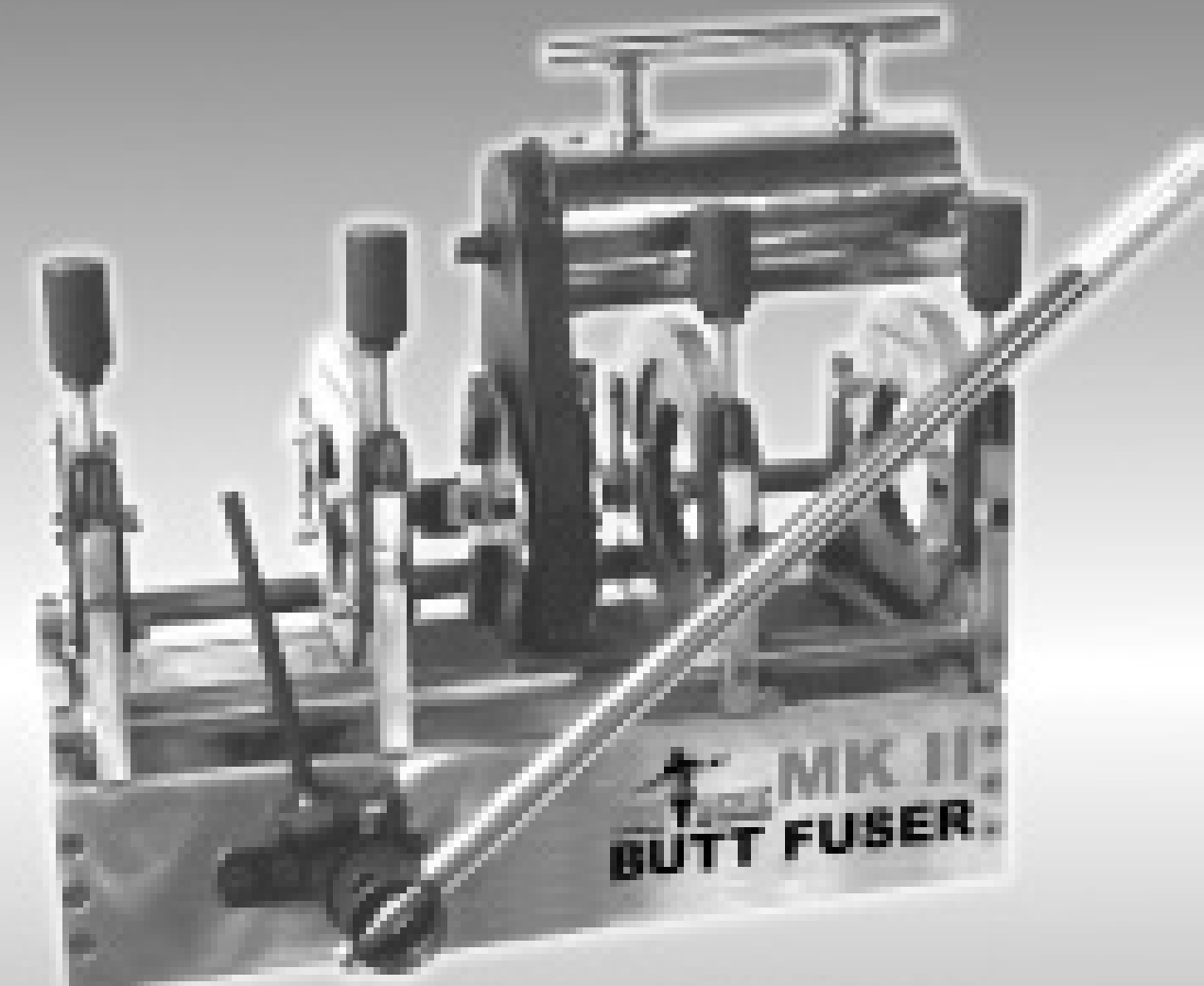
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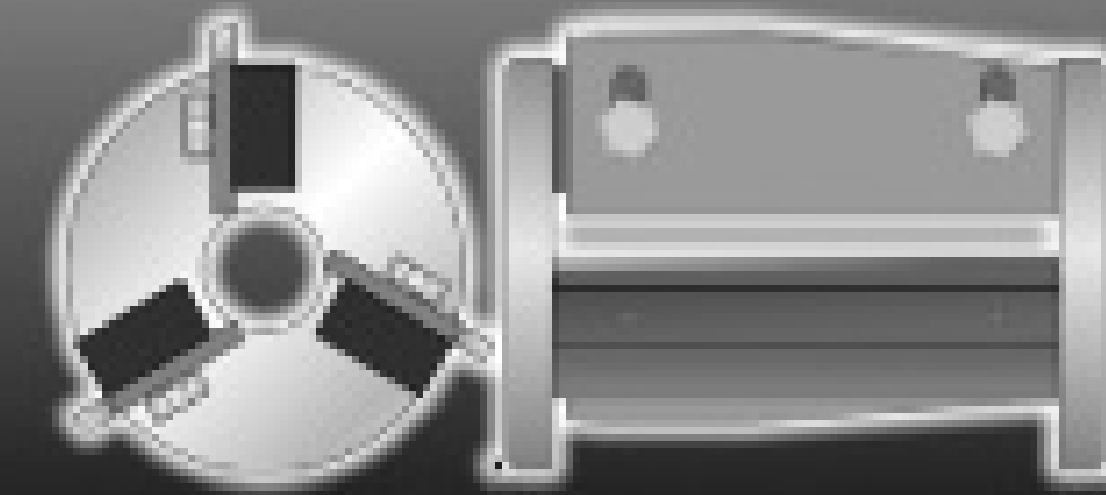
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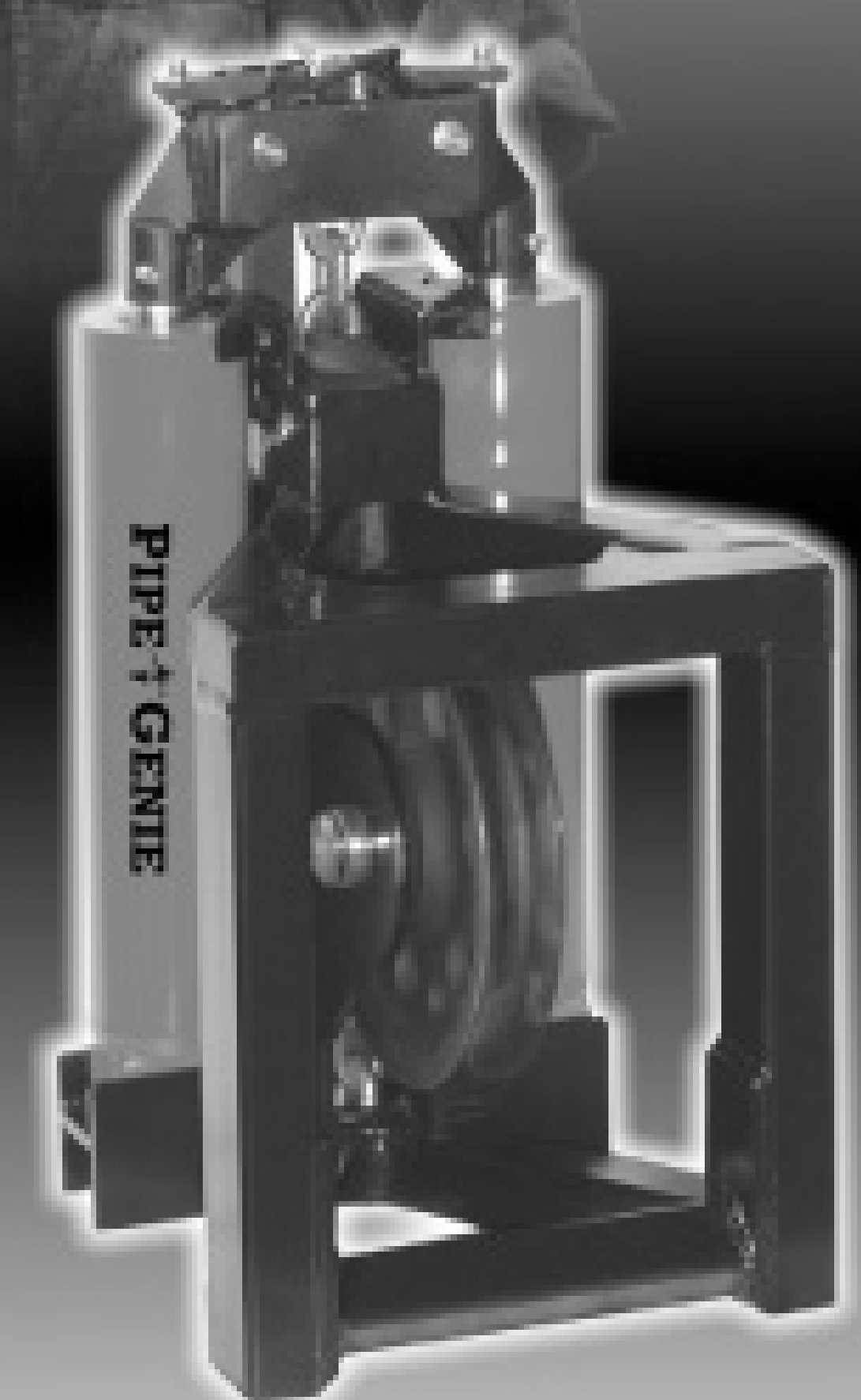
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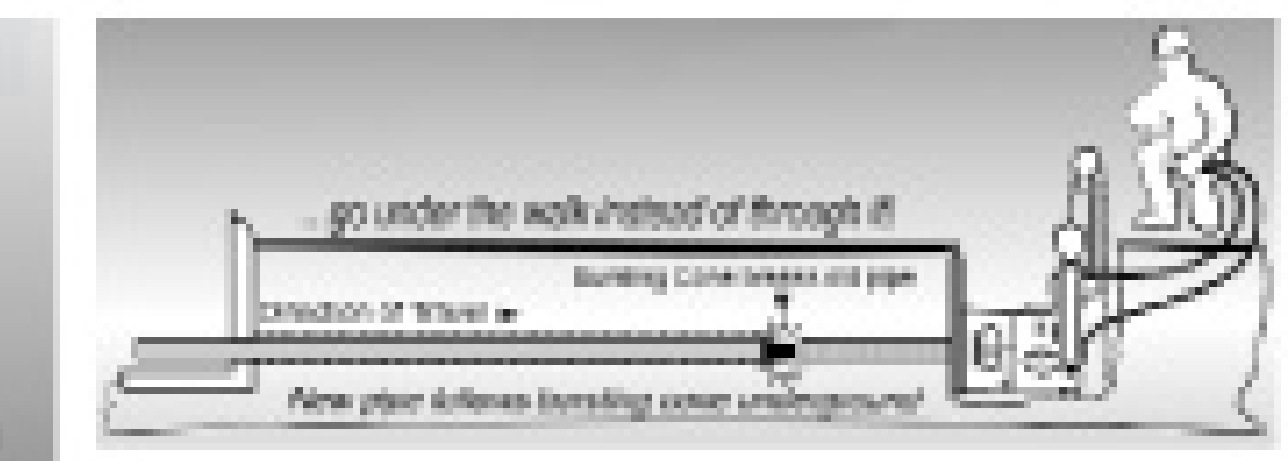


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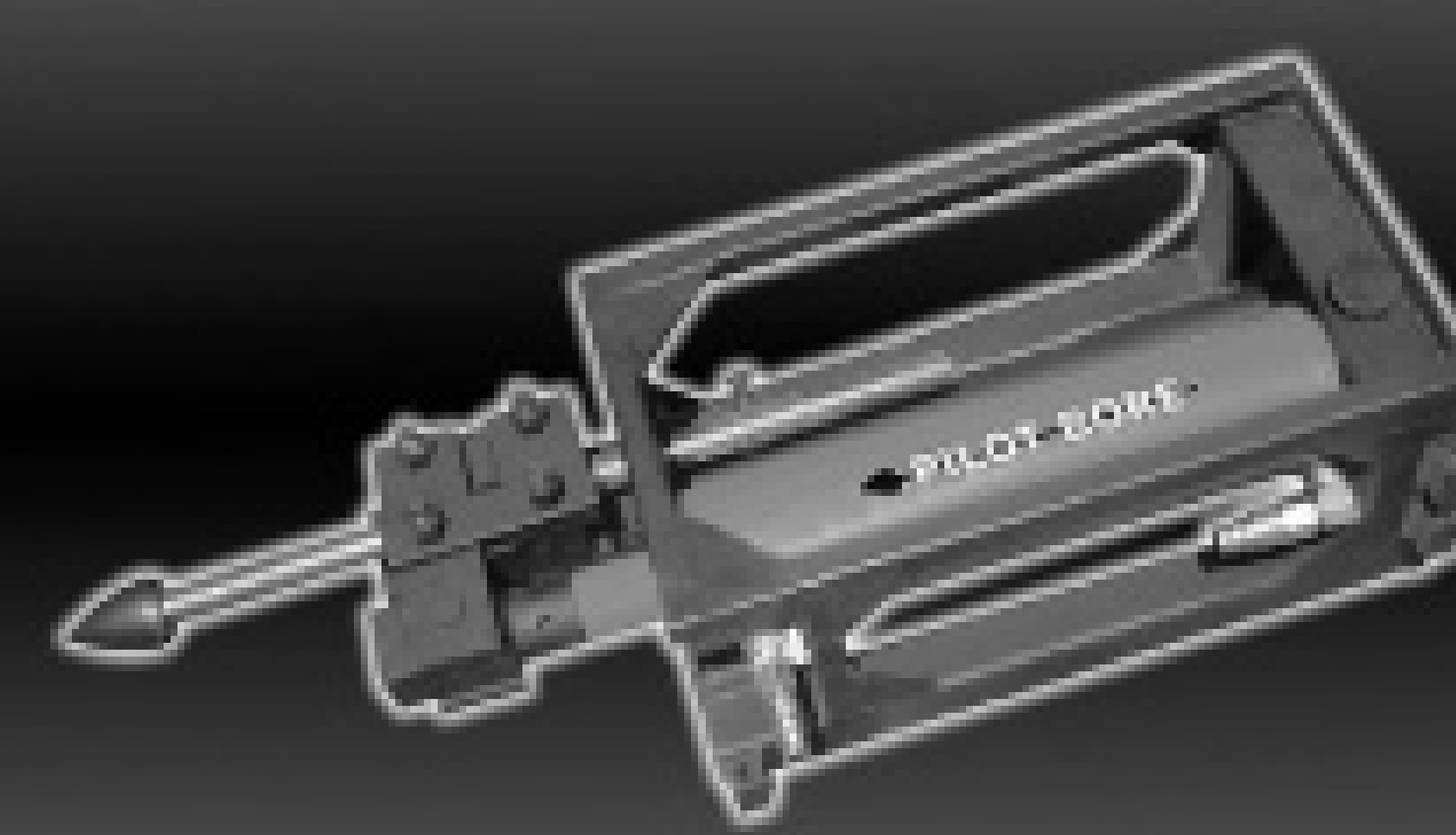


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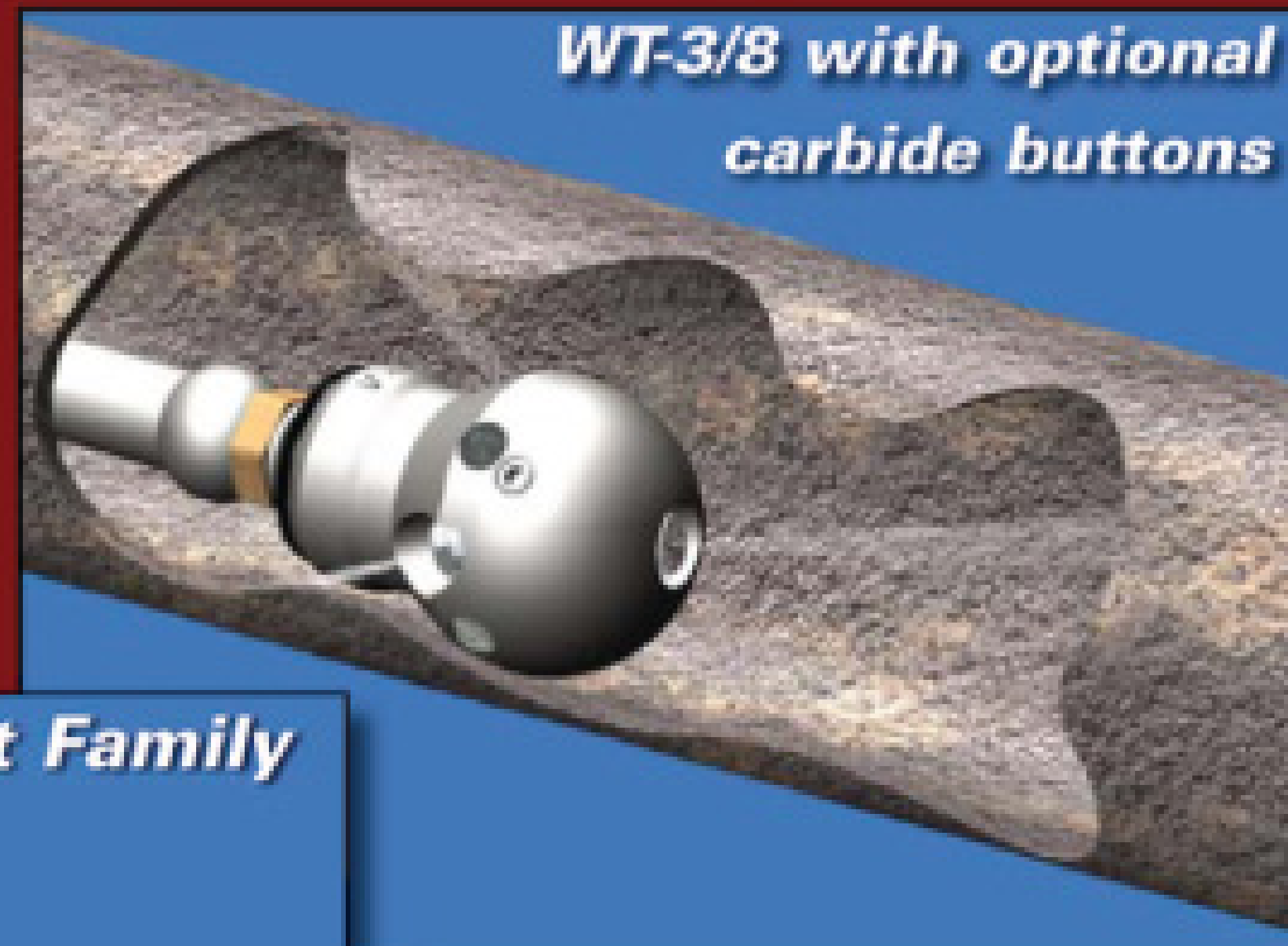
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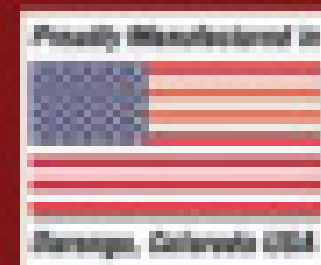


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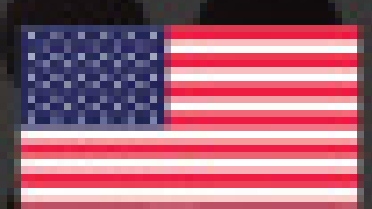
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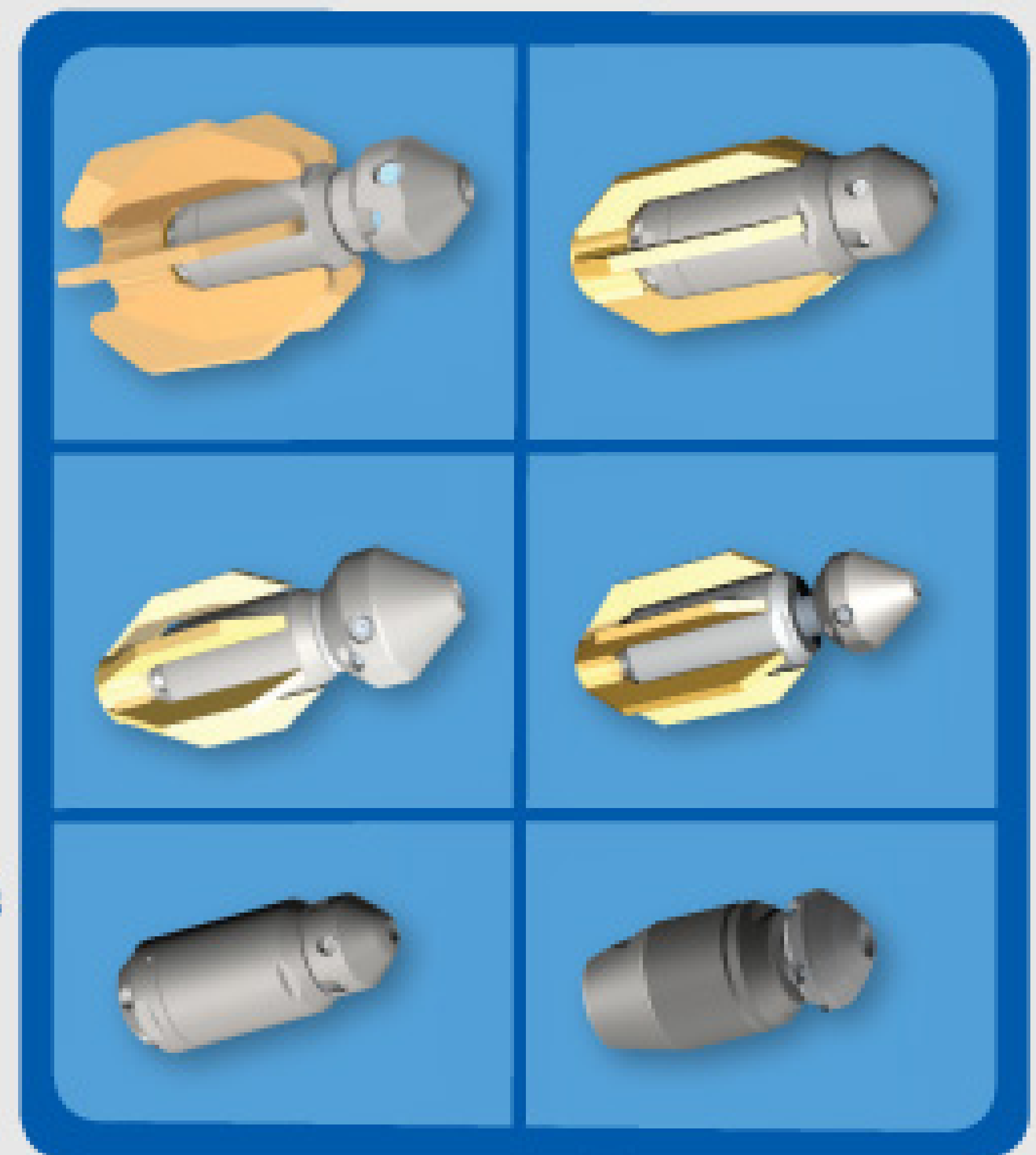
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# Taking Flight

**A special underwater camera on a remotely operated vehicle helps a contractor find a blockage in an Ohio utility's main intake pipes**

By Scottie Dayton

**A** reduction in the capacity of its two intake pipes made it difficult for the Ohio American Water Co. in Ashtabula, Ohio, to meet customer demand, and the summer peak period was approaching.

The plant maintenance supervisor called Pat Murphy, president of Lake Erie Diving Inc. in Painesville, Ohio, to determine the cause of the reduction. The commercial diving company specializes in long-distance pipe and tunnel inspections and cleaning.

Together, the 2,800-foot-long, 24-inch cast iron pipe and 3,000-foot-long, 30-inch reinforced concrete pipe draw 9 mgd from Lake Erie. Using divers to inspect such lengths of small-diameter pipes is not possible.

Murphy called Sean Newsome of SeaBotix Inc. in San Diego, Calif., for help. He recommended the LBV300XL MiniROV (remotely operated vehicle) underwater long-line penetration system, capable of 6,560-foot penetrations and 1,000-foot depths. Using the robot, Murphy inspected the lines and identified the problem. Removal of the blockage restored full capacity, enabling the utility to meet customer demand.

## Extended excursion

Water clarity in Lake Erie determined when Murphy could inspect the pipes. "The longer the lake stays calm, the clearer the water becomes," he says. "When conditions were right, we coordinated around the plant's morning and evening high water demands, and determined which pipe to inspect first."

How long a pipe is shut down depends on the plant's storage capacity, but Ohio American supplemented



Lake Erie Diving's commercial diver Mike Murphy prepares to place cleaning equipment in a 3,000-foot-long, 30-inch intake pipe. (Photos courtesy of Pat Murphy, Lake Erie Diving Inc.)

its four- to five-hour reserve by drawing water through the second pipe. Instead of discharging into a raw well, the utility's intake pipes couple to the pumps before coming to a common

the lake elevation, enabling Murphy to launch the robot without a confined-space entry. "We attached the 6,500-foot-long umbilical cord containing the fiber optic and power

**"The robot fits inside 16-inch pipes, so it's a challenge for equipment that small to travel great lengths. Long inspections are physically challenging to the pilot because they require intense, uninterrupted concentration."**

Pat Murphy

header in the plant. To access them, Murphy and his tender, the person who plays out the ROV's umbilical cord, excavated two 12-foot-deep pits, installed 8-foot diameter concrete vaults, and cut into the pipes.

The water in the vaults rose to

cables, lowered the robot into the water, and piloted it into the line," he says. Both pipes descend from 12 to 25 feet.

The umbilical cord weighs 400 pounds, and the 21- by 19- by 10-inch-high ROV weighs 36 pounds,

## TOUGH JOB

### PROJECT:

Restore capacity to two lengthy water intake pipes in Lake Erie

### CUSTOMER:

Ohio American Water Co., Ashtabula, Ohio

### CONTRACTOR:

Pat Murphy, Lake Erie Diving Inc., Painesville, Ohio

### EQUIPMENT:

LBV300XL MiniROV, SeaBotix Inc., San Diego, Calif.

### RESULTS:

Water capacity restored to meet summer peak demand

but a special jacket on the former and syntactic foam on the latter made them both neutrally buoyant. Brushless direct-current thrusters on the vehicle – four forward, one vertical, and one lateral – enabled four-axis maneuverability. "I fly it down the pipe like a helicopter," says Murphy. "Due to previous ROV experience, it took 10 minutes to master the



# See for yourself.



The SeaBotix LBV300XL is ready to inspect the intake pipe after the pipe was cleaned.

joystick and integrated control console.”

A three-jaw grabber on the ROV retrieves large and small items, and the umbilical lifts 100 pounds. The robot has a 570-line 0.2 Lux color camera that tilts 180 degrees for a 270-degree field of view, and a 430-line 0.03 Lux black-and-white camera better suited to turbid water. Because the inspections required maximum lighting, Newsome mounted four 1,080-lumen LED lights on the crash frame, one per corner.

“They provide tremendous illumination and extremely broad coverage when mounted at opposing angles,” says Newsome. “The single 700-lumen LED internal light also can track with the color camera as it tilts up or down.” The LBV (little benthic vehicle) hand controller adjusted intensity and on/off functions.

### Fly away

“The robot fits inside 16-inch pipes, so it’s a challenge for equipment that small to travel great lengths,” says Murphy. “Long inspections are physically challenging to the pilot because they require intense, uninterrupted concentration. After four or more hours of watching the vehicle’s progress in low visibility conditions, I’m suffering eyestrain and mental exhaustion.”

Murphy took two 15-minute breaks per inspection, using the vertical thruster to lock the ROV to the crown of the pipe. The water in the pipe was static, but ROV speed depended on clarity. “The dirtier the water, the less you see, and the slower you go,” says Murphy. The inspections averaged 15 fpm. Data was stored on tape and DVD.

At the pipe’s deepest point, the

camera revealed a 1/2- to 3/4-inch-thick layer of zebra mussels covering 100 percent of the wall, as well as sediment half-filling the line. “When the lake gets rough, it disturbs the silty mud on the bottom and it’s drawn into the pipes,” says Murphy.

The men retrieved the ROV by hand, but noticed areas where the umbilical cord might rub. The standard procedure is to thread the cord through a piece of rigid hose or send down a diver to guide it, but Murphy built an aluminum frame with plastic wheels. The unscrewing of two vertical bolts wedged the frame in position, and the umbilical cord rode over the wheels.

The device was ready for the four-and-a-half hour inspection of the 30-inch pipe. Besides sediment, Murphy found golf balls, two bowling balls, and a tire. No one knew how the large items got there, but the utility changed the style of its intake screen as a result.

Murphy rented a sewer-cleaning truck to jet the lines. “I supply the hoses and a head I modified to not remove tuberculation,” he says. “I don’t need piles of scale added to the sediment in the pipe.”

Cleaning progressed 100 feet at a time. Workers pulled the material back to the vault, then pumped it to a lagoon. It took 50 hours to clean each pipe. The utility now has plenty of water for its customers, and a contract with Murphy to inspect and clean the pipes each spring. ■

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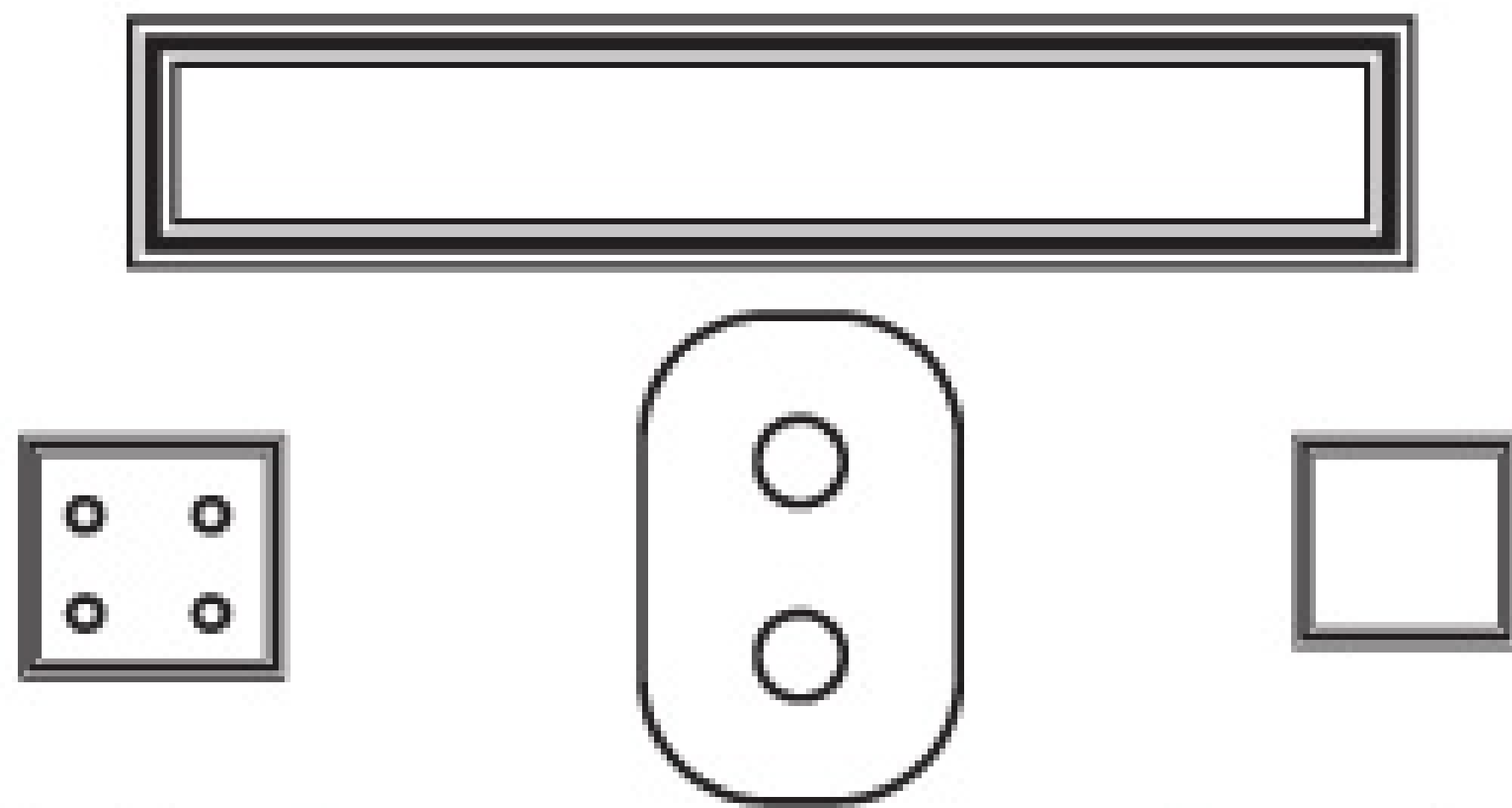
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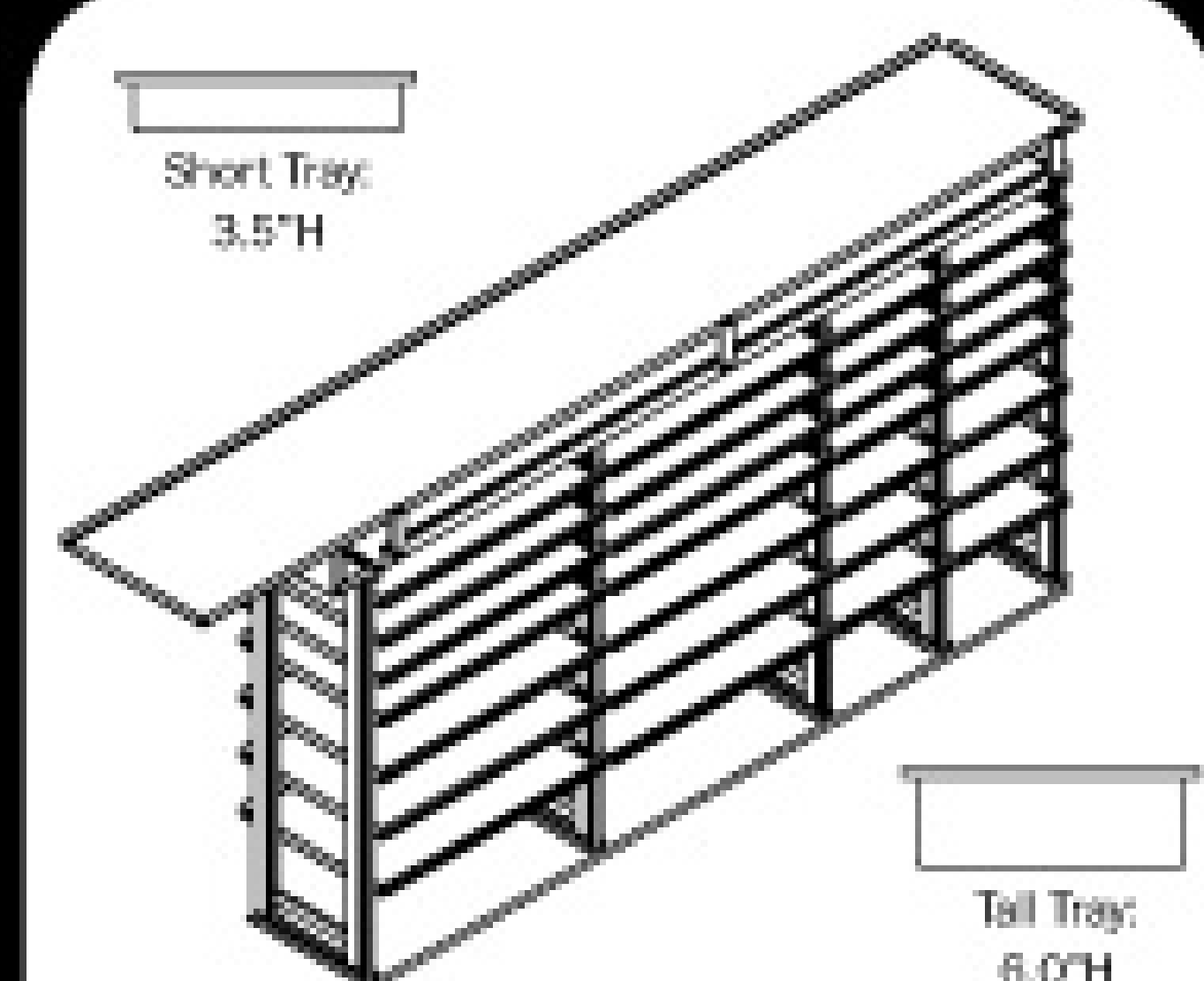
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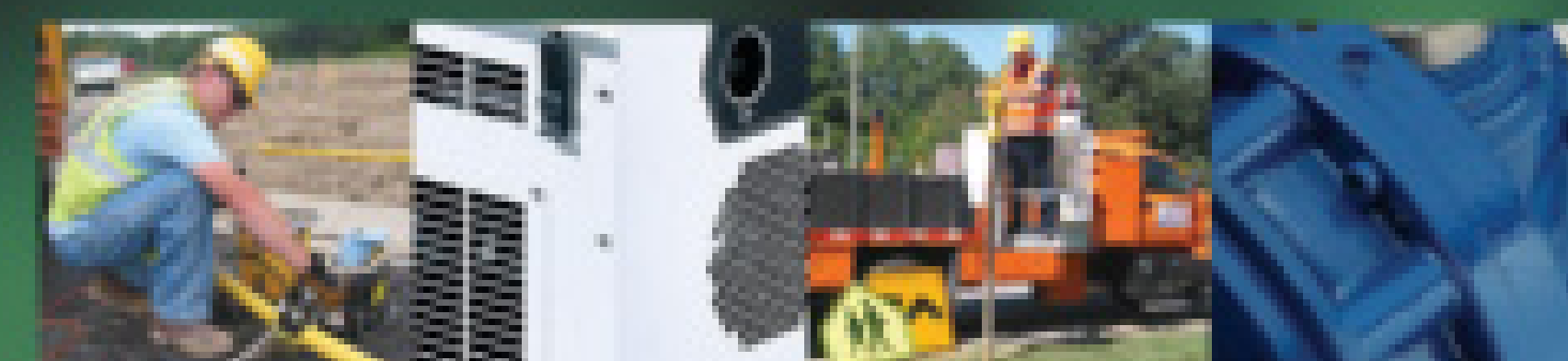
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## Micro-Camera Explores Small-Diameter Drain Lines

By Ken Wysocky

The SeeSnake microDrain inspection system from RIDGID lets technicians maneuver through small-diameter drain lines and tight turns, and even through toilet traps, improving productivity and reducing job times.

"We've never offered a camera this small before," says Josh Sooy, product manager. "It's designed for drain lines from 1 to 3 inches. Before this, technicians had to make some assumptions about drain lines or under-slab construction because the pipes were too small or access points weren't available for camera inspections."

The system includes 30 feet of flexible, durable 0.33-inch cable. "You can bend the cable into a very tight loop without kinking it," Sooy notes. "It's flexible enough to get it through 1 1/4-

inch traps and toilet traps, but strong enough that you can still push it out 30 feet."

The unit offers a 0.86-inch color camera head that delivers 510 x 496 resolution. The system does not include a monitor, but it can serve as a complete system if used along with the handheld SeeSnake microEXPLORER digital inspection camera. That system has a built-in, 3 1/2-inch LCD monitor. The microDrain system is also compatible with other SeeSnake camera system monitors.



With a microEXPLORER docked on it, the unit weighs 8.6 pounds. At 19 inches high, 12 3/4 inches long and 4 1/2 inches wide, it is compact and easy to carry and store. The enclosed reel serves as a carrying case, and the unit comes with two ball guides. For information, call 800/474-3443 or visit [www.ridgid.com](http://www.ridgid.com).

## Water Cannon Introduces Foam Jet Injector

The high-pressure foam jet injector kit from Water Cannon shoots dense foam more than 20 feet. It has a variable spray pattern that can be adjusted up to 50 degrees and works on any pressure washer, including heavy duty industrial applications up to 5,000 psi and a flow rate of 5.6 gpm. The injector operates with cold or hot (up to 140 degrees F) pressure washers. 800/454-9274; [www.watercannon.com](http://www.watercannon.com).



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## CUES Introduces K2 Wireless CCTV Inspection Rig

The self-contained K2 Summit Wireless Base Station from CUES Inc. is mounted in a compact, lightweight, waterproof enclosure that can fit into an ATV, van, trailer or pickup truck. A hand-held wireless control operates all CUES zoom-pan-and-tilt cameras, transporters and reels for 4-inch to 200-inch pipe inspection. The system includes a heavy-duty reel with rotating side load feed-out assembly, optional automatic payout and up to 1,500 feet of video cable. Camera options include a built-in inclinometer, sonde or laser diode system. 800/327-7791; [www.cuesinc.com](http://www.cuesinc.com).



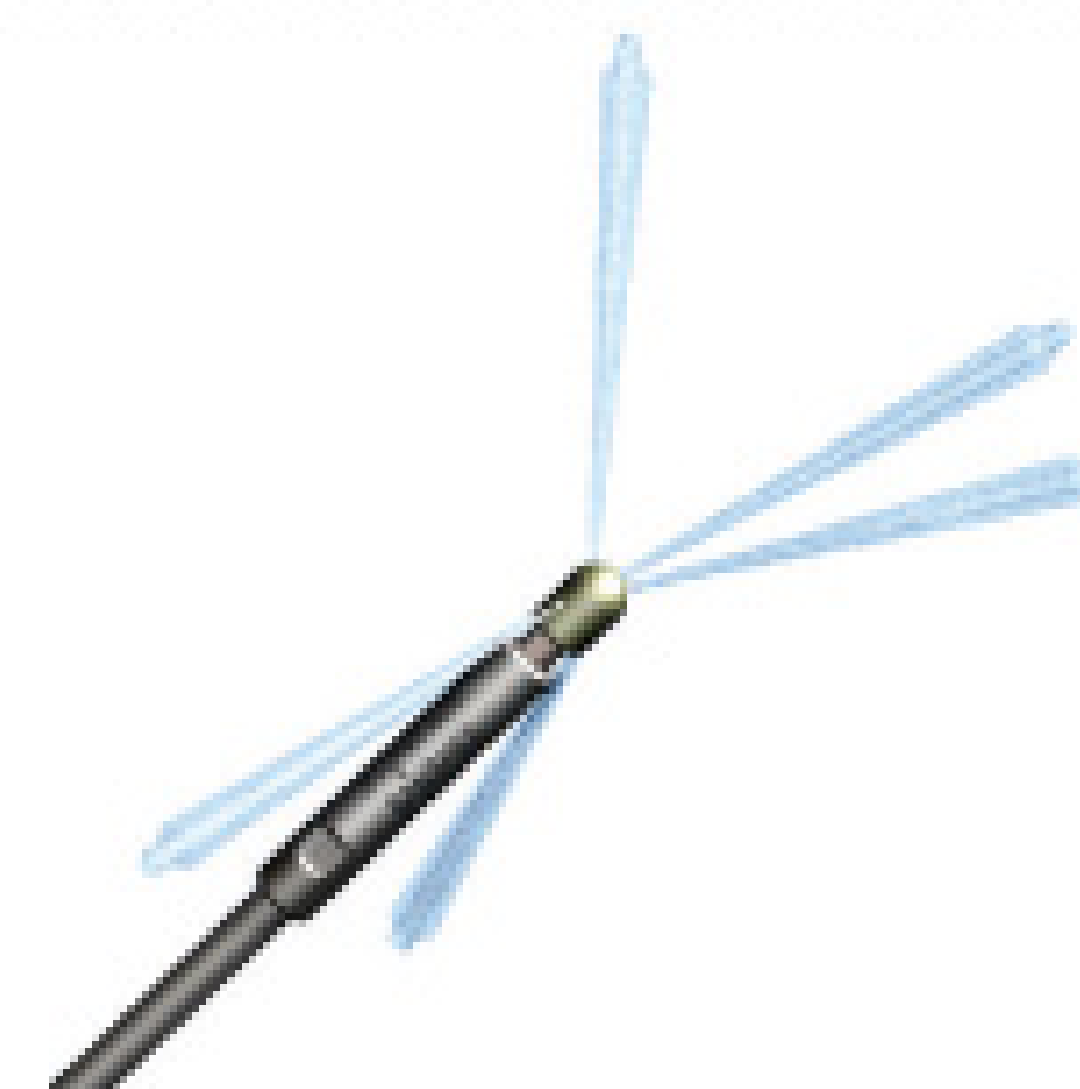
## Vermeer Introduces D9x13 Compact Drill

The D9x13 Series II Navigator horizontal directional drill from Vermeer Corp. is designed for confined jobsites and areas where surface disturbance, such as residential and commercial lawns, is a concern. The drill can carry up to 300 feet of rod, while the two-speed rotational gearbox enables the operator to increase backreaming speed when conditions allow. The unit is 35.5 inches wide (an extendable-track feature adds 6.5 inches) and has 5.5 psi of ground pressure. The operator's station includes dual joysticks, digital display screen, drilling fluid volume recorder and rod cycle counter. The drill is powered by a 47-hp Kubota



## StoneAge Introduces Banshee BN9.5 Nozzle

The BN9.5 Banshee nozzle from StoneAge Inc. is designed to clean tubes as small as 1/2 inch. The nozzle has two head options – a polisher to remove thin hard scale, and an unplugging to clean plugged tubes. 866/795-1586; [www.stoneagetools.com](http://www.stoneagetools.com).







## Envirosight Introduces Water-Powered Cutter

The HydroCut self-propelled water-powered cutter from Envirosight LLC generates 5 hp at 30,000 rpm to mill quickly and cleanly through tough materials without the need for post-cut brushing and auxiliary CCTV and jetting. Water cooling keeps the

cutter's motor from overheating and extends the life of the diamond-impregnated, hardened-steel Kardiam cutter bits, designed to last up to 100 hours. The unit's onboard cameras view work as it is being performed. Debris is washed from the lens by integral water nozzles. High-speed cutting and a remotely activated stabilizer arm minimize camera vibration. The system is available in four sizes and made for pipelines 4 to 24 inches in diameter. Its mill arm swivels 400 degrees and articulates 30 degrees. 866/936-8476; [www.envirosight.com](http://www.envirosight.com).

## Pearpoint Launches P350 flexitracT Crawler

The P350 flexitracT portable crawler system from Pearpoint Inc. supports three interchangeable, high-resolution cameras, each featuring ultra-bright LEDs. The digital video is displayed on the command module's 8-inch, industrial-grade TFT screen. Engineered to operate in almost any environment, the command module and drum have a weatherproof rating of IP53. Data is stored on compact flash cards, while the crawlers can operate fully submerged and are water-resistant to depths of up to 300 feet. 800/688-8094; [www.pearpoint.com](http://www.pearpoint.com).



## Electric Eel Adds Expansion Tools

Three expansion cleaning tools have been added to Electric Eel Manufacturing Co. Inc.'s line of accessories. Made of heavy-duty, heat-treated steel, the three-bladed tools are available in 3 to 4 inch, 4 to 6 inch and 4 to 8 inch sizes. All feature the snap-lock quick-connect tool coupling. 800/833-1212; [www.electriceel.com](http://www.electriceel.com).



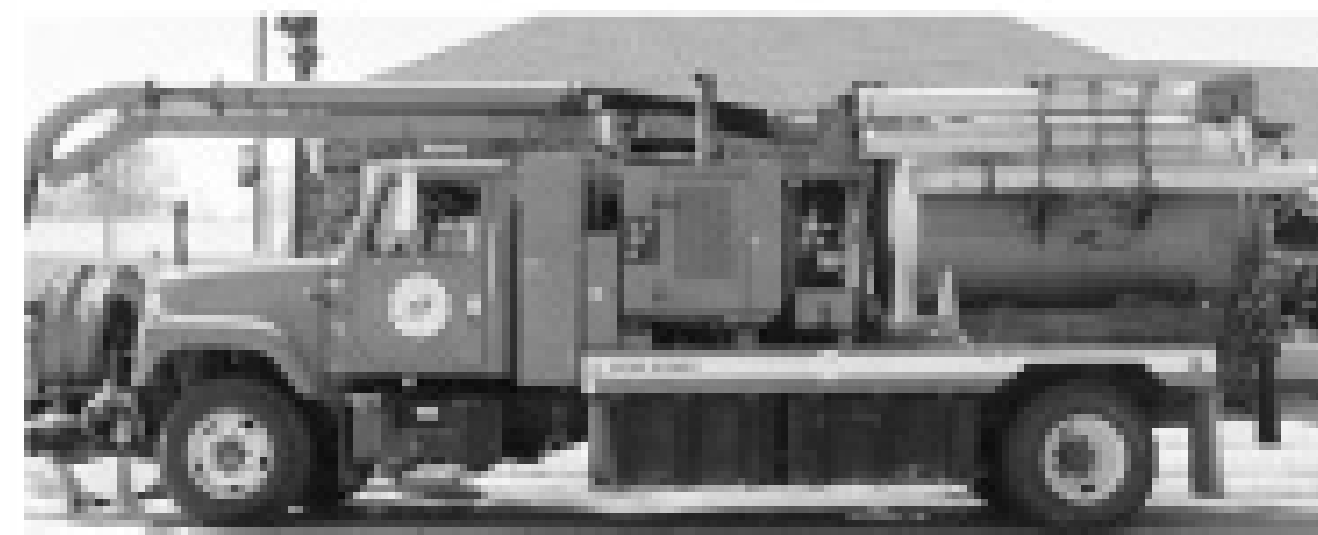
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**1993 Ford LNT 8000 Vector Combination:** 80 gpm @ 2000 psi, 1,500 gal. alum. tank, 1" x 600' hose, TigerTail/MiniMissile. \$50,000 OBO



**1991 Camel Combination Cleaner w/1986 Mack:** 65 gpm @ 2000 psi, 1,500 gal. poly tank, 1" x 600' hose, TigerTail/MiniMissile. \$17,500 OBO



**2003 Sterling Combo Truck:** 275 hp, 2003 Super Products Camel, 16-yd. debris, 6-24 blower, 1500 gallon water, 65@2000 psi Myers pump. \$90,000 OBO



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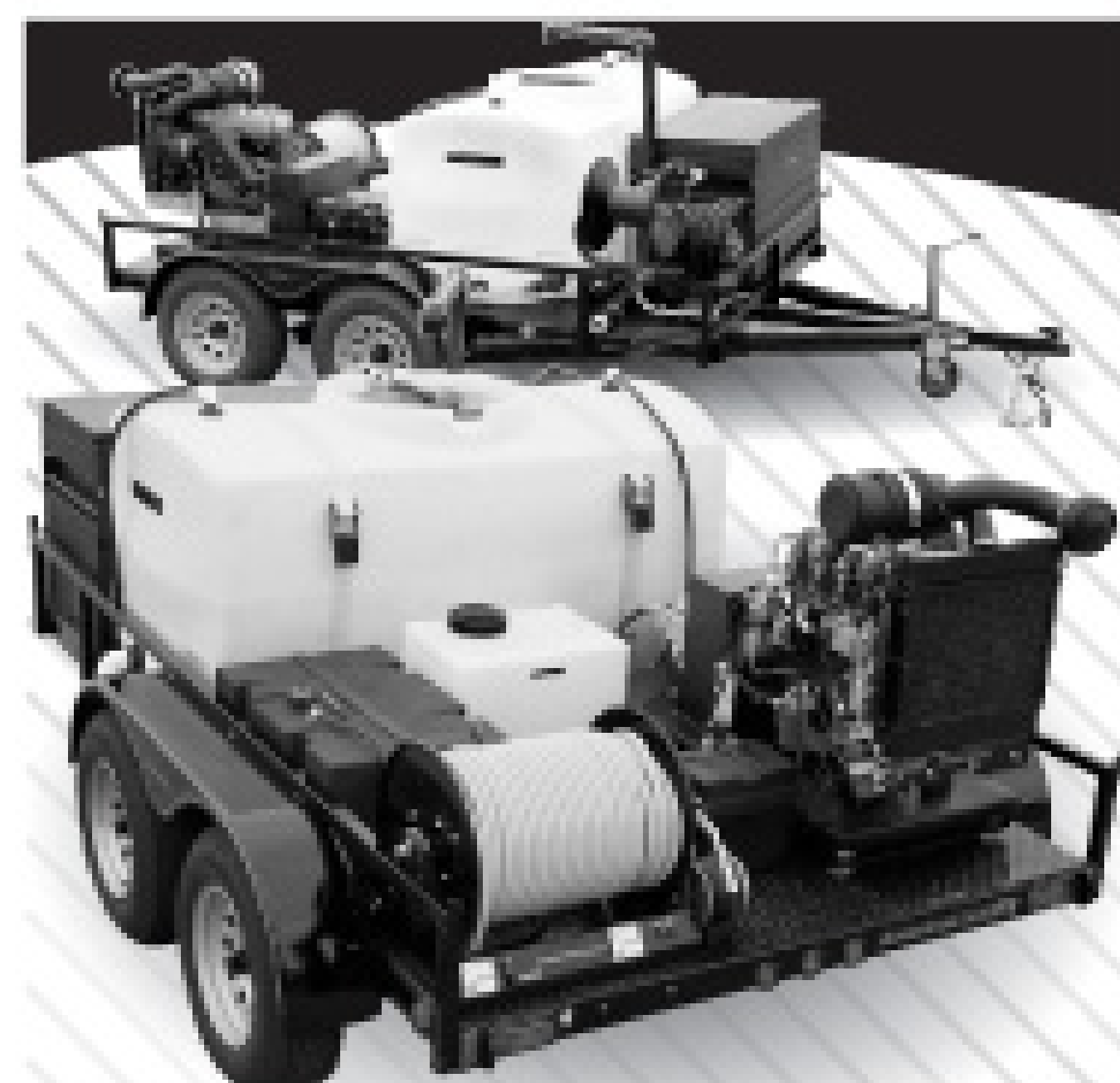
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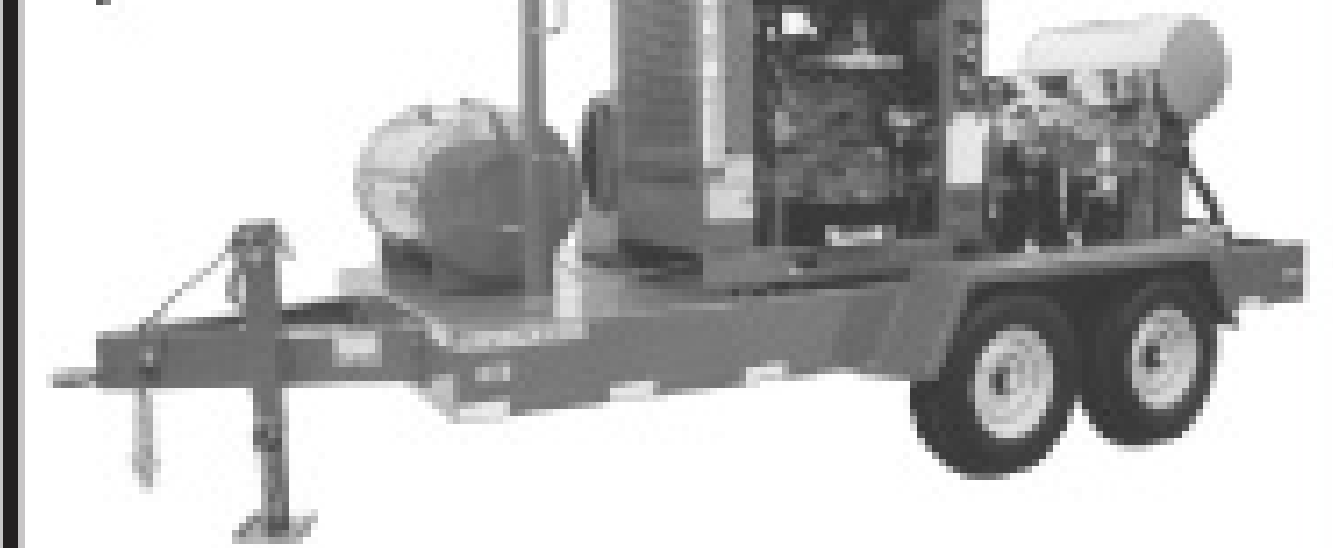
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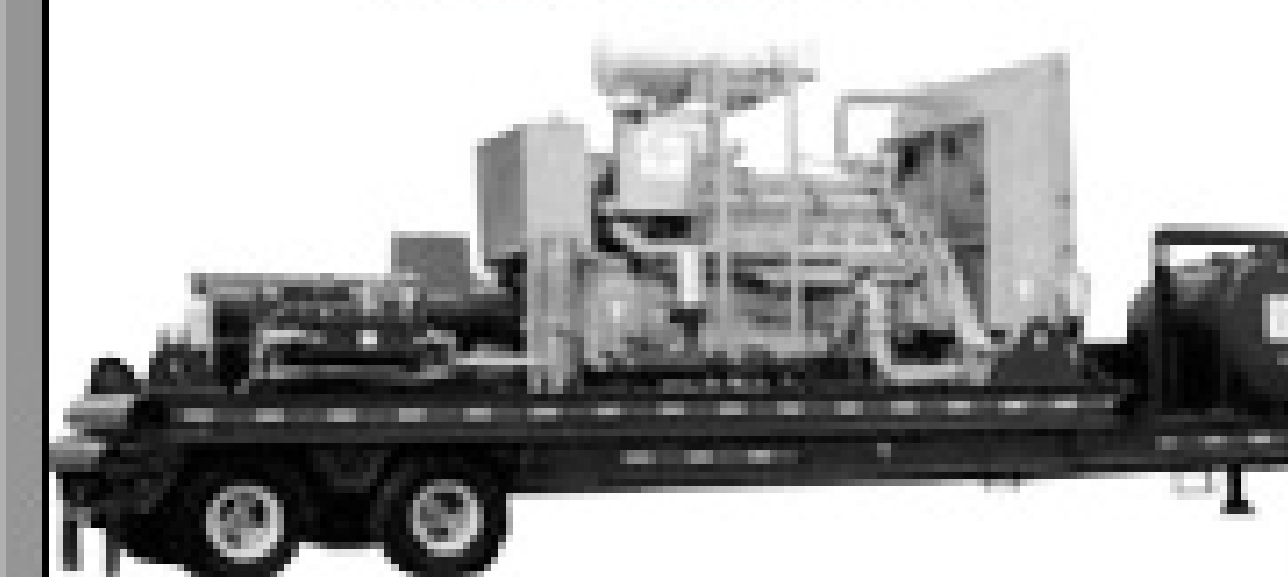
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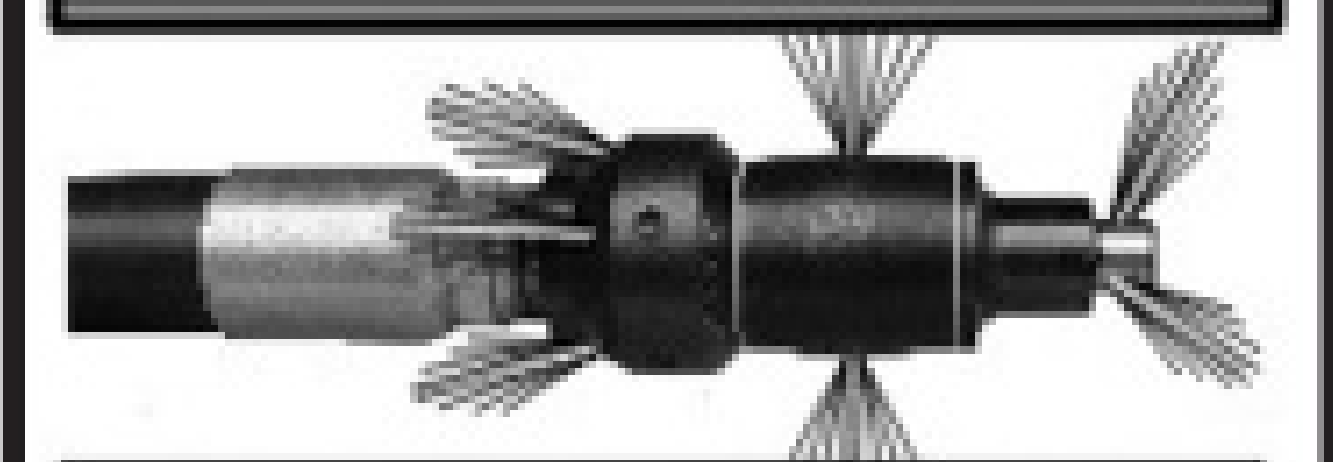
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September



**2002 GapVax HV56 Tri-Axle Hydro Excavator/Industrial Vacuum Loader:** 27' Hibon blower, 5300 cfm, 5000 hrs., wireless telescopic boom, 880,000 BTU burner, heated pump and water cabinet, 1000 water/15-yd. debris, coated tanks, exc. cond. \$165,000  
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**1987 Ford L8000:** Flusher truck with Sreco unit, 65 gpm @ 2500 psi. Truck is in excellent working condition. Was painted 2 years ago. Located in Canada.  
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**1994 Vactor RamRodder, Ford:** 128K miles, 426 aux. engine hours, Myers water pump, 1000 gallons, diesel/diesel, automatic, municipal trade. ....\$8,760  
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**2007 Volvo VHD64F, VacAll Jet Vac:** VED12 365 hp, Eaton 10-spd., 12 CY debris, 1500 water, 80 @ 2000, Hibon TS56 blower, low miles and hours. Also have available with Hydro. Exc. kit.  
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**2002 International 4300:** DT466E diesel, auto, A/C, PTO, under CDL, SRECO Sewer Rodder, Model HS-375TM-PTO, 800' of .375' continuous rod, rotating drive head, ex-city truck, only 36,900 miles, great shape. \$27,500  
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**2006 Mud Dog Hydro Excavator:** Low miles, low hours, excellent condition. Other units also available. Call for details.  
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**2005 KW 900L w/GapVax VTX820:** 27' Hibon blower, new 2009 Presvac vacuum tanker trailer, hyd lift/dump, full open tailgate, wireless remote extendable boom, pressure offload, vibrator. Extremely mint. Only 29,000 miles.  
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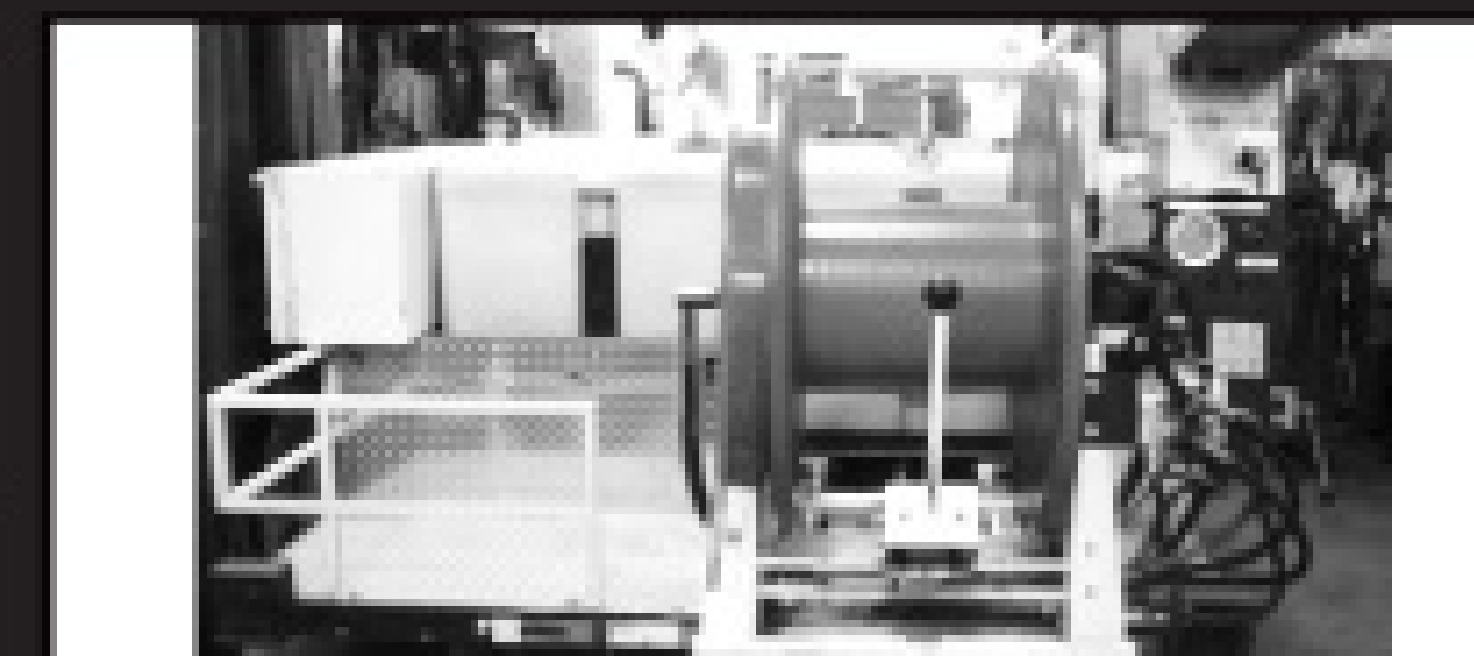
**(2) Vac-Cons:** 1997 (25K miles), 2001 (27K miles). Both with low hours. 80 gpm/2000 psi, 3-stage fans, hydrostatic blower drive. Both units mtd. on IH 2554 chassis, MD3060 auto. trans. Ex-city units, well-maintained.  
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# Searching for Quality

Leading contractors find that reliable inspection equipment and sharp images help them stay efficient on the job and sell their services to customers

By Ken Wysocky

Video inspection cameras are among the more valuable tools in a drain cleaner's service truck. Inspection systems have come a long way since the days of VHS recordings. Who imagined 10 years ago that technicians could leave customers with a tiny disc to show them exactly what's blocking their sewer lateral?

New technology provides a wide array of inspection options, including high-resolution color cameras and television monitors, easy-to-use control boards, and self-leveling and pan-and-tilt camera heads. Different jobs demand capabilities almost as varied as the problems to be solved. Here's a look at what three contractors prefer in pipeline inspection systems.

"Reliability is one of our top priorities with inspection cameras," says Jarvis Sester, a technician for Champion Cleaning Specialists Inc. in Cincinnati, Ohio. "We want something that's going to work day-to-day without those small technical issues.

"We also require a good wheeled system that can get through pipes in our area. We deal a lot with clay and stacked-brick pipes that were put in during the 1930s and '40s,



Jarvis Sester

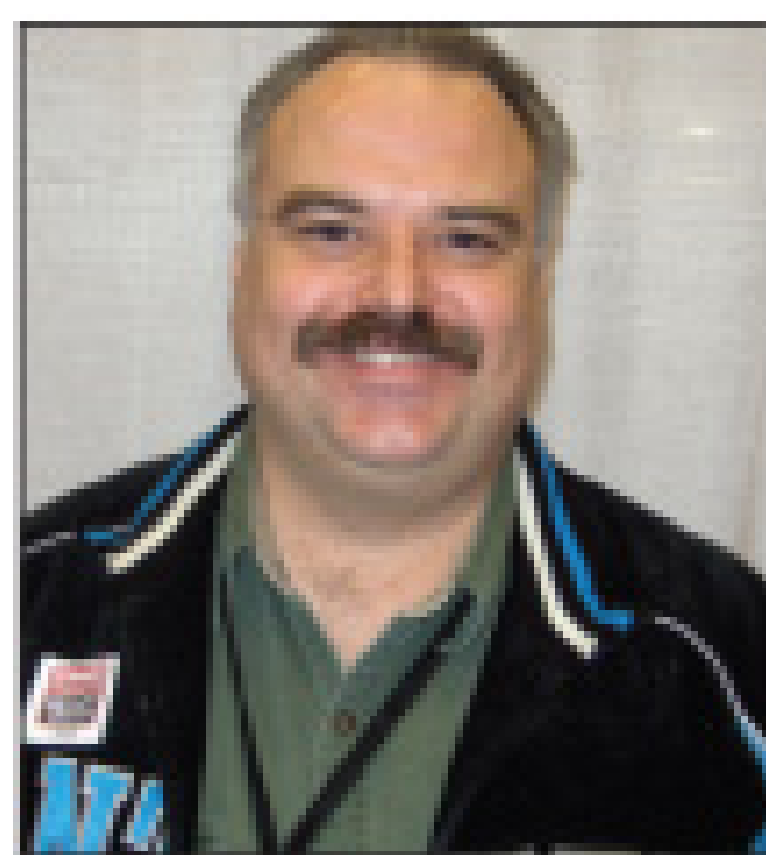
Technician  
Champion Cleaning Specialists  
Inc., Cincinnati, Ohio  
Employees: 40  
Years in Business: 23

and they're in really bad shape. Wheeled vehicles seem to do much better.

"A color monitor is important, too," Sester says. "We work with the gas industry, so we're always looking for those tell-tale yellow PVC pipes they're using now, so that we know when we're running into something bad. We switched over to LCD monitors for that extra bit of clarity. We keep the resolution at 480 lines, which is sufficient for our customers to see."

Owning high-tech equipment definitely helps the company market its services. "Thanks to our equipment, we get business we otherwise wouldn't get because we can hit the laterals," Sester says. "In our area, there aren't a lot of companies that actually get up into the laterals. But right now, we can produce a video on a DVD and hand it off on site to a customer. We can make a DVD in about 20 minutes.

"We're recording it anyway. If you're out in front of a house, the owner usually wanders out to see what we're doing. We get to talking and soon they get curious and ask, 'What does my lateral look like?' Then we can show them."



Jerry Kubu Jr.

Application Engineer  
Pengat Technical Inspections  
Inc., Deer Park, N.Y.  
Employees: 24  
Years in Business: 38

"The top feature we look for in a video inspection system is a good, high-resolution camera," notes Jerry Kubu Jr., an application engineer at Pengat Technical Inspections Inc. in Deer Park, N.Y. "We like a minimum of 525 lines of resolution. That enables us to easily see defects even in the largest-diameter pipes with minimal lighting.

"We also prefer equipment that's easy to incorporate into our existing systems, so we don't

**"Quality is king. The higher the video quality, the more apt you are to get repeat business and new business."**

Jerry Kubu Jr.

have to retrofit our existing equipment just to use a new camera. As technology advances, some older systems become so outdated that they're completely incompatible with new technology. So instead of just upgrading one part of your system, you end up replacing your entire system."

The ability to produce high-quality images leads to more jobs. "We get more work because the quality of the end product is so much better," Kubu says. "Instead of providing a fuzzy, grainy black-and-white picture in the report, which makes it difficult to point out the defect, you can offer an image that easily shows exactly what you're describing to the customer. People are blown away by the quality of the images.

"Quality is king. The higher the video quality, the more apt you are to get repeat business and new business. Word-of-mouth referrals in this industry are very important. Good visuals help us obtain new business, because we can show images from previous jobs to potential customers. You can't always judge a book by its cover, but a lot of times it gets you in the door.

Comments may be directed to Ken Wysocky in care of Cleaner. You may also e-mail pipelines@cleaner.com.



"We try to differentiate ourselves by using the newest technology," Kubu says. "In this industry, you always have to upgrade. You always have to maintain your edge over the competition – offer something that sets you apart."

**"On the recording side, I use voice narration. Otherwise, if it's just a video, a customer won't know what they're looking at. If you talk and explain things as the inspection goes along, they understand what's going on."**

Ron Johnson

"I take a close look at the electrical connections on the camera head itself," says Ron Johnson, owner of Economy Sewer and Drain Cleaning in Dallas, Texas. "That's the weak point where most of the problems occur – the connections tear out and start leaking.

"I also prefer a unit that has a control box that's separate from the monitor and the recording device. If it's an all-in-one unit, and the monitor or recording device goes bad, then you have to buy a whole



Ron Johnson

Owner  
Economy Sewer and Drain  
Cleaning, Dallas, Texas  
Employees: 1  
Years in Business: 17

new system. Or if you send it back to the manufacturer for repairs, you're out the other pieces of equipment. If you break down in the middle of a job and have to wait two weeks to get your camera system back, that's not very good.

"On the other hand," Johnson says, "if I have a unit with one control box into which you plug a monitor and a recording device, if the recorder or monitor goes bad, you just run down to the electronics store and buy a new monitor or recorder. Or you can snatch another monitor or recorder from a standby camera, plug it in and keep working.

"On the recording side, I use voice narration. Otherwise, if it's just a video, a customer won't know what they're looking at. If you talk and explain things as the inspection goes along, they understand what's going on. Right now, we're using DVD recordings, but we're looking at buying an all-digital system." ■



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**PLUMBING SERVICE AND REPAIR,** est. 1985, 60/40 commercial/residential. Jet machine, camera, slab leak detector. 5 trucks, 9 employess, turn key, still profitable. Location Hilton Head Island, SC. Fair price. 843-683-6001. (C11)

For Sale: A well established Service Plumbing & Rooter Co. Located in California, scenic San Joaquin Valley. Large customer base. Health forcing retirement after 30 years. For more information 559-901-3906. (C10)

Industrial Service Company for sale in the N. Georgia/East TN area. Established company with excellent customer base. Vacuum trucks, waterblasters and other equipment. \$1 million+ a year with the potential to double that with the right owner. 423-593-2169 or indussuper@gmail.com. (C9)

**BUSINESSES WANTED:** Septic pumping, grease trap, drain cleaning and other ancillary businesses wanted. We are buying well run businesses in New England, Mid-Atlantic and Florida. All opportunities will be given proper consideration. Confidentiality ensured. Will move quickly for the right opportunity. Serious inquiries only. Please contact Richard Bedard @ Blue Water, 617-326-3344 or rbedard@bwseptic.com. (CPBM)

## BUSINESSES

Plumbing, Septic & Drain and Portable Toilet Company for sale in Northeast Ohio. Complete company or will consider dividing. Possible real estate also. Serious inquiries only contact at: businessforsale64@yahoo.com. (CPT9)

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Drain and Sewer Cleaning Business Opportunity. Complete packages with all equipment and training for under \$6,000! For complete details visit [www.drainbiz.com](http://www.drainbiz.com). (C9)

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Software for the industry! Reminder cards, diagrams, mapping, work orders, job history, dispatching. Free demo - Summit Service Profit Builder™ from Ritam Technologies, LP 800-662-8471 or 208-629-4462. (CBM)

## DRAIN/SEWER CLEANING EQUIP.

**HUGE NOZZLE & HOSE SALE!** 1/2" specials on nozzles, hose and accessories. Used jetters, push rods, repo equipment. [www.jetterdepot.com](http://www.jetterdepot.com). 678-549-2621. (C9)

## DRAIN/SEWER CLEANING EQUIP.

Used and rebuilt cable machines in stock. Ridgid K-7500, K-3800, K-380, K39. General, Speed-roter, Metro Rooter, T-3 Mini Rooter. Spartan #1065, #300, #200, #100, Electric Eel #C and #D. Coast TM-25, TM-38, TM-30. The Cable Center. 1-800-257-7209. (CBM)

## JETTERS-TRAILER

2 SECA trailer jets. Both have Myers 35 gpm, 2000 psi pumps. New paint on both. Located in Dallas. 972-938-1905. [www.empireequip.com](http://www.empireequip.com). (CPBM)

2004 Hurricane 213 trailer jetter. 13 gpm @ 2000 psi, 250 gal. water tank, 400' jetter hose with all attachments including pressure washer attachments. Like new, low hours. \$10,000. Brian 651-464-7837. (C9)

New O'Brien Model 3518-SC jetting unit, trailer mounted unit, w/350 poly water tank, 4000 psi @ 18 gpm, 400' hose and attachments. **In stock!!!** (Stock #3024V) [www.VacuumSalesInc.com](http://www.VacuumSalesInc.com), (888) **VAC-UNIT (822-8648)**. (C9)

## JETTERS-TRUCK

1988 Ford F800, SRECO jet truck, 140,000 miles. Former city truck. \$9,000. 651-489-5185. (CP10)

**RETIRING:** 1984 Ford Jetter Truck, nice, low miles, 1500 gallon, Vactor by Peabody, Meyers arrow board, extras. \$12,950 OBO. Jim 951-545-9604. (C10)

1991 International 4700, DT series diesel, 190 hp, 6-spd. manual trans., hydraulic brakes, SA, 1997 Sewer Equipment Company of America model 747 sewer cleaner, rotating hose reel, 40 gpm @ 3000 psi pump, Perkins diesel aux. engine, 500' of 3/4" hose. 515-864-1036. (C9)

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## JET VACS

1989 International Vac-Con with 12-yr. debris tank, extendaboom, 1000 gal. water tank, 3-stage fan, 2000 psi @ 100 gpm, low miles, like new. Price \$39,000. Call 503-969-9557 or 503-682-2723. (CP9)

1984 Ford L-8000 Vactor, tandem 810, 3208 Cat engine, 271 hrs., 10-yr. box, READY TO GO. Current DOT inspection. \$13,000. 800-468-7074. (C9)

1985 Camel, 9-yr., single axle ejector. Refurbished in 1995. 1000 gallon poly tanks, 6" suction tube, 65@2000 water pump, 600' hose reel w/hose. Mounted on GMC Kodiak. Municipal owned. 515-864-1036. (C9)

1991 Camel 200, 6-speed, 65 gpm, 2000 psi, Roots 624 blower, tandem axle, ready for work, 169,000 miles, excellent condition. \$39,000. Call 920-655-7302 or 920-866-9109. (CBM)

2006 AquaTech Model B-10 on International, 39,000 miles, 1800 hrs., Myers 80 gpm, 2000 psi, Roots blower, 1500 gal. plastic water tanks, pump-off system, debris flush-out system. Truck is like new. Located in Dallas. 972-938-1905. [www.empireequip.com](http://www.empireequip.com). (CPBM)

Sewer Equipment America Jet-away easement machine with tracks. Unit is in mint condition, ex-city unit. 500 hrs., ready to work! \$9,500. Call 800-627-0778. (C9)

2002 Vactor 2110-j4 combo unit, 2500 psi, 80 gpm, mounted on Int. 2554. Allison a/t. John Deere aux. engine. 732 fan hours, 5700 engine and 34,500 truck. Pristine cond. 540-921-3542 Chuck. (P9CM10)

1992 International 2554 cab and chassis with a Vac-Con model V211TR combination vacuum loader and high pressure sewer cleaning system. (Stock #5045C) [www.VacuumSalesInc.com](http://www.VacuumSalesInc.com), (888) **VAC-UNIT (822-8648)**. (C9)

2001 Vac-Con Model V390 SHA, 3-stage fan, 80 gpm 2000 psi pump, 600' of new 1" jet hose, new paint. Was city owned. 972-938-1905. [www.empireequip.com](http://www.empireequip.com). (CPBM)

## JET VACS

1989 Vactor 2100 series, 1,000 gal. aluminum water tanks, 10 CY rotating hose reel, single-stage fan, 1989 Ford L8000 chassis with 46,000 miles. Both engines diesel, reconditioned and in very good shape. \$29,000. More information contact Bruce 608-575-7060, nse@hughes.net. (CM9)

1989 International Camel with 12-yd. debris tank, extendaboom, 1500 gallon water tank, Meyers pump, 80 gpm, 2000 psi, ex-municipality. Price \$34,320. Call 503-969-9557 or 503-682-2723. (CP9)

1998 VacCon V312THA on a Ford LT8000, 3-stage fan, 65 gpm, 2000 psi pump, extendible boom, articulating hose reel, 12 yard debris tank, new paint. Was a city owned unit. Located in Dallas. 972-938-1905. www.empireequip.com. (CPBM)

1995 Ford L8000, diesel, automatic, S/A, outstanding 5 cu. yd. Vac-Con combo jet/vac unit. Articulating hose reel with 500' of 3/4" hose, 3,000 psi @ 30 gpm FMC pump, 8" diameter front telescopic boom. LOW MILES and hours. Outstanding unit!!! 515-864-1036. (C9)

(1) 2002 Vactor 2110; (1) 2002 2115; (1) 2003 2110. **All PD units.** All were city owned units in excellent condition. Located in Dallas. 972-938-1905. www.empireequip.com. (CPBM)

1993 International Camel, diesel, push plate, large blower, 1000 gallon water tank, low miles, excellent condition, ex-municipality. Price \$43,120. Call 503-969-9557 or 503-682-2723. (CP9)

1998 Vactor 2110 on a Freightliner FL80, 28,213 miles, 2-stage fan, 80 gpm, 2,000 psi pump off system accumulator. Was a city owned unit. Located in Dallas. 972-938-1905. www.empireequip.com. (CPBM)

## JET VACS

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**VSI Equipment Finance:** New and used equipment financing available with competitive rates. Access to quality pre-owned and new vacuum tankers. **Call JR @ 609-868-7634.** (C9)

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## LOCATORS

FOR SALE: VVAX DVD camera system, used, \$2,000 OBO. RIGID LOCATOR, great condition. \$650 OBO. Call Rick 239-340-3840, rick@thepumpersplumber.com. (C9)

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**Top quality aerators at wholesale prices.** We have replacement units for most name brands and also carry Linear Regenerative Rotary Vane pumps. Flagg Air, Gast, Thomas, FPZ, Secoh, Medo and more. Call a company that understands aerators and aeration systems. Septic Services Inc. 800-536-5564. (CPBM)

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**AQUATECH CUFFED RUBBER DEBRIS HOSE #176620:** 8' x 19' 8". Many in stock. \$1,374 + freight. Call 800-365-6583. Cloverleaf Tool Co. (M8C9)

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Cues Grout truck 89' new remanufactured engine, packers 8'-36" Onan 6.5 generator, Cues DV III camera, Graco pump, 4.3 air compressor, Cues quad grout 1220 reel. \$40,000. 813-489-3108. (C10)

Cues TV/Cutter Trailer: 2007 Evolution package, with or without camera, cutter or compressor. Call or go to our web site for photos and specs. www.mccannsubground.com. Financing available. Kelly 608-279-2299. (CBM)

One trade-in model of Pipe Genie heavy duty pipe bursting equipment. Excellent condition, looks new. 30-ton, 100 feet cable, full 2 year warranty. 877-411-7473. (CBM)

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**Portable Toilets:** Poly constructed, molded seat, urinal, latching door. Handicap accessible units available. New and used. CCI/Brian Touey 805-896-3777. (CBM)

## PORTABLE RESTROOM TRAILERS

**Restroom Trailer - Gold Series:** 32', new and used. Women's - 5 stalls, 2 sinks; Men's - 2 stalls, 2 urinals, 2 sinks. CCI/Brian Touey 805-896-3777. (CBM)

## PORTABLE RESTROOM TRAILERS

**Restroom Trailer - Platinum Series:** 30', new and used. Women's - 4 stalls, 2 sinks. Men's - 2 stalls, 3 urinals, 2 sinks. CCI/Brian Touey 805-896-3777. (CBM)

## PORTABLE RESTROOM TRUCKS

**2002 International Pumper Truck:** 4700 series, DT466, automatic, air brakes, 1200 gallon waste, 300 gallon fresh water, Masport 75 pump. CCI/Brian Touey 805-896-3777. (CBM)

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**GapVax, Inc.,** a nationally recognized manufacturer of industrial and municipal vacuum units and hydro-excavation units, is seeking highly motivated individuals to fill **three full time Sales Positions** in the Southeast, West, and Gulf Coast regions. **A detailed listing can be viewed at www.gapvax.com.** Send resumes to betty@gapvax.com or 575 Central Avenue, Johnstown, PA 15902. (CMP10)

Tap cutting operators for a well established Colorado based contractor to work at locations throughout the western states. Salary negotiable based on experience. Health insurance, 401(k), housing and per diem while traveling. Email resume to lisa@wsuinc.net. (C10)

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2 - Sagino high pressure washers with 150 hp electric motor driven, 300 bar/4500 psi Tri-prex pump, ss manifold and fittings, skid mount, insulated sound proof box. \$8,500 each or \$15,000 both. Call 503-969-9557 or 503-682-2723. (CP9)

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Two (2) NLB Pump Conversion Kits. Converts 6K/8K/10K to a 20K pump. Originally purchased 9/2007 for NLB 605 10K units. New, unused, complete in factory contractors boxes. Price each: \$22,000 OBO. Contact: Greg Sponseller 330-482-0893. (P8C9)

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## RENTAL EQUIPMENT

Liquid vacs, wet/dry industrial vacs, combination jetter/vacs, vacuum street sweeper & catch basin cleaner, truck & trailer mounted jettors. All available for daily, weekly, monthly, and yearly rentals. **VSI Rentals, LLC, (888)VAC-UNIT (822-8648) www.vsirentalsllc.com.** (C9)

**KMH Equipment company** has a full range of late model combo units and industrial vacuum loaders for sale, rent or lease. Call us at **888-564-0202.** (CMP9)

## RODDERS

1997 Chevrolet 3500 4x4 dually, 6.2L diesel, automatic, Sewer Equipment Company of America model 444 truck mounted sectional rodder sewer machine. About 52,000 miles. 515-864-1036. (C9)

Nice SRECO trailer-mounted rodder, 20 hp Onan engine model NHB-MS3604C, between 300' & 400' of rod. Very low hours. 515-864-1036. (C9)

## SEPTIC TRUCKS

2005 Presvac pumper truck, low profile unit, 500 gallon tank, full dump rear opening door with vibrator. Fruitland RCF-500 vacuum pump, mounted on Ford F-450 chassis, 6.0L V8 diesel, manual, air cond., 8,000 km, OTTAWA CANADA, \$48,500 USD. 613-841-8410. (CP10)

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## SEPTIC TRUCKS

2009 Peterbilt 340 with a Presvac 3600 gal. (US), aluminum vacuum tank unit and Masport pump package. **Available!!! 4 in stock.** (Stock #13337 B,C,D) **www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).** (C9)

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**Sewer Cam Reel, Camera and Locator Repair:** 48-hr. turn-around time. General Wire, Ratch, Ridgid, Pearpoint, Electric Eel, Gator Cams, Insight Vision, Vision Intruders. Quality service on all brands. For more info. give Jack a call. Dynamic Cable Repairs, Lodi, NJ 07644. 973-478-0893. (CBM)

\*\*\*www.servicewithasmile.com\*\*\*  
**Sewer Cam Reel and Camera Repair: Authorized for General Wire, Ratch & Ridgid. Quality service on all brands. Need more info? Give Chuck a call. Electronic Repair Co., Birmingham, AL 35206. 205-836-0454; email: part@servicewithasmile.com.** (CBM)

## SHOWER TRAILERS

**Shower Trailer - Gold Series:** 32', new and used. Men and women sides each have 3 private shower stalls with changing area, 1 restroom stall, 1 sink. CC/Brian Touey 805-896-3777. (CBM)

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1990 AG-CHEM TERRA GATOR, 2004 rebuilt Cummins 6 BTA. For pictures and more information check out our web site [www.waltsteuer.com](http://www.waltsteuer.com). Contact Walt @ 231-620-3228. (CMP9)

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**T&T Tools:** Probes, Hooks. Probes feature steel shafts with threaded and hardened tips. The insulated **Mighty Probe™** tested to 50,000 volts. **Top Poppers™** open manhole covers easily. Free catalog. **www.TandTtools.com.** Phone **800-521-6893.** (CPBM)

## TV INSPECTION

Cues 1999 Ford E-350 cutaway with 12' box, full studio & equipment rooms, 6KW generator, Pipe Ranger transporter, shorty tractor, Night Owl pan/tilt camera, approx. 800' MC cable, computer and software, 35K miles on chassis, city trade. \$38,000. 1-800-381-9134. (CP9)

Aries LETS lateral inspection camera from mainline, multi conductor, includes control panel, 2 nylon coated cables. \$20,000 OBO. 813-489-3108. (C10)

1996 RST Camera Trailer w/ Honda generator. Trailer has heat/AC. Two crawler bodies. View from 8"-60". Reel has approx. 1,400'. Pictures available via e-mail. \$18,000 OBO. Phone 507-340-0389. (C11)

Cyclops color camera system with transporter, 625' cable, color TV, DVD, voice recording system. Video 6" - 24" pipe, mounted in 1986 Chevrolet van, 102K miles, runs great. Purchased 1 year ago for \$23,000. 727-501-6176. (C9)

TV Ferret: Complete used, pan & tilt system, 600 ft. cable, 6' crawler, \$16,000. More turn-key systems. [www.tvferret.com](http://www.tvferret.com). 518-399-2211. (CBM)

Lateral Push Cameras with Sondes: 1) P332 System, 300' push rod, 2" auto up right color 1" color head, digital video capture w/LCD, sale price \$7,900. 2) P331 System, 120' push rod, 1" color head, 2" auto up right color, extra universal flex, extra 1" flexi sonde, digital video capture w/LCD, sale price \$7,500. Buy both interchangeable systems for \$13,400. Limited access televising vehicle, luxury extreme go anywhere 4x4, As seen in Cleaner magazine June & September 2008, Pumper/Cleaner Show 2008 at PipeTech booth, JP magazine May 2008. Without TV equipment setup for Rover, \$55,000. With EnviroSight Rover systems loaded, \$105,000. Call Greg at 207-310-8429. (C9)

**Cyclops Sewer Inspection System** mounted in good running 1994 E-150 Conversion Van. Refurbished P&T color camera, new HD transporter, 625' TV cable, 15" LCD monitor, DVD/VCR rec/player, powered rewind cable reel, associated manhole hardware with one year full factory warranty (90 days on refurb camera). Only \$38,000. Call Bill @ 830-249-9756. (C9)

## TV INSPECTION

ARIES pan and tilt Saturn 3 tractor crawler system. Like new. Only used on 5 miles of pipe. Set up for 8"+ pipes. 1,000' cable. Has skid plates and 3 sets of tires. VCR system hook up that can be switched to DVD easily. Must sell \$35,000 OBO. E-mail [mrrooter@winntel.net](mailto:mrrooter@winntel.net) or call 231-218-6066 Brad. (CMP9)

Cobra Technologies equipment with 2 Cues cameras and 2 transporters, 1000' of cable on one reel and more than a 1000 on the other reel. All equipment seems to be mfg. in 1998, mounted in a 1995 Chev. W-5 cabover with 20' box. Only 47,000 miles. Lots of spare parts, very nice truck and equipment. Pictures and more details on our web site: [letsrollautoandequipment.net](http://letsrollautoandequipment.net); go to medium duty trucks-van trucks. Value priced at only \$29,950. Ned 719-338-3767. (P10C11)

BEST BUY: Must see this 1997 RST video system that includes a P & T, tractor, and an additional mainline camera. Converted ambulance with odometer of 48,000, perfect studio, storage space and safety lights. The software includes printed reports, hard disc, and Sony Photomate. Photos of interior and exterior are available via e-mail. Special Price \$10,000. Call Don at 503-969-9557. (CP9)

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**Inspection System** mounted in good running 2001 1/2 ton E-150 Ford Van. P&T color camera, HD transporter, 600' TV cable, LCD monitors front and rear, powered rewind cable reel, all-in-one controller, 1000 watt inverter, on-screen footage w/keyboard data entry, DVD rec/player, with one year full factory warranty. Only \$51,200. Call Bill @ 830-249-9756. (C9)

## TV INSPECTION

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**New Cyclops Standard Sewer** Used and rebuilt color and black & white camera kits. Ridgid SeeSnakes, General, Gen-Eye, Pearpoint. The Cable Center. 1-800-257-7209. (CBM)

## VACUUM LOADERS

1999 International with a Guzzler Ace 16' HG wet/dry industrial vacuum tank loader. **In stock. Available for purchase or rental.** (Stock #7390) **www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).** (C9)

2009 Sterling LT9500 triaxle with a new Presvac, Powervac 3800, 3,250 gallon (US), DOT, wet/dry industrial, vacuum tank loader. **In stock!!!** (Stock #13336) **www.VacuumSalesInc.com, (888) VAC-UNIT (822-8648).** (C9)

1986 IME trailer-mounted sewer vac, 20 hp Onan engine model NHC-M# 3888D, only 500 hrs. Very good condition. 515-864-1036. (C9)

## WANTED

**Wanted:** Used tractors, crawlers, straight-pan/tilt cameras, lighthoods, power controls, cables, reels, monitors, software, etc. Working or not. 902-435-8200, fax 902-435-8222. (CBM)

WANTED: US Jetter 4018 (4000 psi x 18 gpm) with wireless remote, mini kit, and nozzles. Call 217-854-7933. (C9)

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NLB 4075D, 40k @ 3 gpm waterblaster, factory trailer mounted with air compressor, includes new hoses in box, 620 hrs. on machine, serviced by NLB, perfect machine, stored inside. \$38,000. Contact Pat 973-476-7194. (CP9)

2 Gardner Denver 610XVSDT variable speed, Cummins, 25gpm/10k, 43gpm/7.5k, GD 610DT Cummins, 22gpm/10k, 2 American Waterblaster, 3-53, 12gpm/10k. O'Connell Jetting Systems. Mike 707-747-4848. [oonjet@pacbell.net](mailto:oonjet@pacbell.net). (C9)

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  - 5" B&W or Color monitor\*
  - Variable intensity lights
  - 100' push cable
  - Combination push rod-video cable (0.33" diameter) with low friction polypropylene jacket
  - Lightweight and compact
  - Video input/output jacks
- \*EELCAM EC-5 Systems available in color or B&W or with self-leveling color camera.

**OTHER SYSTEMS AVAILABLE!**



EC-5 B&W

**DRAIN CLEANING TOOLS FOR PROFESSIONALS**

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**SPARTAN TALKS TOUGH.**

Stan Walton, Texas

SPARTAN REP SINCE 1999

**“I HAVE CUSTOMERS THAT HAVE A SPARTAN CAMERA ON EVERY TRUCK.”**



**SPARTAN**  
FOR TOUGH CUSTOMERS.  
SINCE 1943

I always say that cameras in this industry are by nature interesting creatures. 'Cause it's one of those things: once a customer has one and I teach 'em how to use it, they'll most often find that within 30 days time, it pays for itself. I mean, I have customers with a dozen trucks that have a Spartan camera on every one. And knowing that there's bound to be some normal wear and tear, they like the fact that I'm just a phone call away any time they need me.

**Tough Customer Preferred Product:  
PROvision 2.0 Next Generation Camera**

Durable, compact and technologically superior, this is the industry's most advanced digital camera system. The Spartan PROvision 2.0 — featuring digital video recorder (DVR) technology for optimum field reliability.

- **Pipe sizes:** 1" – 6" diameter
- **Push rod:** 100' reel-mounted; secondary reel available for 150' or 200' lengths
- **Weight:** 40 lbs.

