

# Plumber



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▼ Mike Goode, owner of Goode Plumbing of Chicago, uses Volkswagen Transporter vans as his service vehicles, getting attention while on the road. (Photo courtesy of Mike Goode)



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n the ROAD

## Groovy Wheels

Once popular with free-spirited hippies, vintage VW vans now give Chicago plumber a serious business advantage.

By Ken Wysocky



## On the Cover

T'NG Plumbing, Heating & Cooling owner Todd Grundmeier installs a water softener at a home near Dexter, Minnesota, where the company is based. Todd, and his wife Gina, started the business in 2011 following a fire that destroyed their home.

Photo courtesy of T'NG Plumbing, Heating & Cooling

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Cory Dellenbach

## A Part of the Community

Finding ways to help in the area you serve will benefit your employees and your business

**S**ometimes being a part of a community means more than just operating a business in town and going out when called upon. There is so much more you could be doing; and a lot of it would likely help your business in the long run.

Todd and Gina Grundmeier, owners of T'NG Plumbing, Heating & Cooling of Dexter, Minnesota, have found a great way to get involved in the community they have lived in all of their lives.

Your expertise and talent can be more valuable than your money. Identify an organization you believe in and offer one hour or one day of your expertise: clean out a drain, repair a toilet, or fix broken pipe.

After a fire destroyed the couple's home in 2011, they were determined to rebuild and go all-in on a business they had always wanted to start. After three years in business, T'NG was winning reader voting awards from the local newspaper. Winning an award for best plumbing company in 2014 set the wheels in motion for the couple to repay the community. "I thought the most appropriate thing was to reach out somehow and thank the community for holding us in such high regard," Gina says.

That is when she created the Pay It Forward project, where the company offers a bathroom remodel for a needy

family in the area. Other community tradespeople — carpenters, electric contractors and floor contractors — all chipped in.

T'NG, profiled this month, now does one of these projects every year and will do its next one this month. While the projects help the community, they also give T'NG a reputation as a company that cares about its customers and will do anything for them.

You don't have to do a project of this scale; there are other ways you can help:

**Talent.** Your expertise and talent can be more valuable than your money. Identify an organization you believe in and offer one hour or one day of your expertise: clean out a drain, repair a toilet, or fix broken pipe.

**Time.** It's a fact: People who volunteer more are generally healthier. Create afternoons or days for your whole team to volunteer together. You will be surprised how much it builds your team moral.

**Partnership.** You can help raise awareness for a cause you are passionate about by creating a partnership. It's what the Grundmeiers did when they joined with other businesses to help needy families.

**Goods.** We throw away things every day that someone else could use. Rally your team to bring in their coats, business clothes and electronics to donate to organizations.

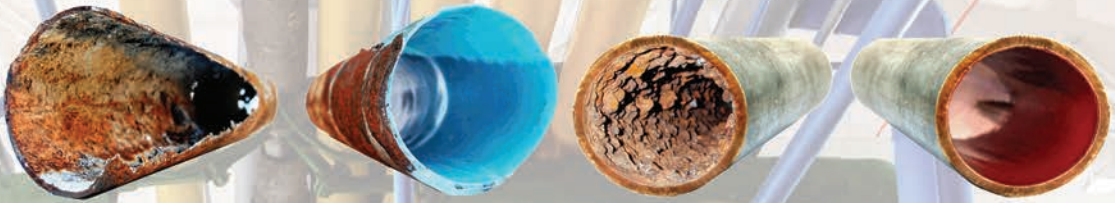
### IN YOUR COMMUNITY

What do you do to help out in your community? Are there service projects your company does every year? I'd like to hear your story. Email me at [editor@plumbermag.com](mailto:editor@plumbermag.com) or call me at 800/257-7222.

Enjoy this issue! 📧

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## RESIDENTIAL PLUMBING

### The Lowdown on Fire Sprinklers

More fire sprinkler systems are being installed in residential homes, making it imperative to understand how common components, such as pressure reducing valves, check valves and water meters, function alongside them. Information that plumbers may find helpful when dealing with these systems is detailed here. [plumbermag.com/featured](http://plumbermag.com/featured)



## OVERHEARD ONLINE

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## TOOL TIPS

### 6 Plumbing Uses for an Oscillating Multi-Tool

Technically, an oscillating multi-tool isn't a plumbing tool. In fact, it wasn't even a construction tool originally. Invented in the 1960s, multi-tools were first used for safely removing plaster casts from broken limbs. But today it could be argued that the multi-tool is one of the most versatile power tools on the market. Everyone from cabinetmakers to HVAC techs are finding valuable uses for one. Here are some of the ways it can help on a plumbing job. [plumbermag.com/featured](http://plumbermag.com/featured)



## BUSINESS MANAGEMENT

### Is a Line of Credit the Answer to Your Cash Flow Problems?

You have goals, plans and visions for the future of your business. You also have challenges and obstacles to overcome. All of that requires money, whether you're a startup or a well-established company. How do you ensure you have the cash liquidity you

need? A line of credit is one option. Regular contributor Amanda Clark explains the pros and cons to consider. [plumbermag.com/featured](http://plumbermag.com/featured)

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▼ T'NG Plumbing, Heating & Cooling owners Todd and Gina Grundmeier stand outside their rural Dexter, Minnesota, home where they operate the business.

# Building From the **GROUND UP**

Minnesota couple turns tragedy into opportunity and helps the community that helped them

By Sharon Verbeten | Photography by Brad Stauffer



**T'NG Plumbing, Heating & Cooling, Dexter, Minnesota**

<b>OWNERS</b>	Todd and Gina Grundmeier
<b>EMPLOYEES</b>	5
<b>SERVICES</b>	Plumbing repair, HVAC, some septic hookups
<b>SERVICE AREA</b>	Mower County (about 30-mile radius of Austin), some rural areas
<b>WEBSITE</b>	<a href="http://www.tngplumbing.com">www.tngplumbing.com</a>





▲ Apprentice plumber Micah Judy transfers water from a toilet tank alongside fellow plumber Dennis Oquist as they prepare to replace a toilet.

**A**

house fire turned out to be the starting point of a big adventure for Todd and Gina Grundmeier.

That fire, which destroyed their Dexter, Minnesota, home, forced the two to evaluate their situation and finally do something they had talked about in the past: start their own company.

“Our lives had been turned upside down,” Gina says. “We lost everything we had. We thought since we’re already starting over, maybe it was time for a change. It was a way of taking control of our path.”

Todd, who had earned his master plumbing license in 2008, had worked for several other plumbing companies, but starting out on their own with a plumbing business generated some fears for the couple. “We had talked about it, maybe starting our own thing, but there’s a lot of fear in doing that. Fear of failure is huge.”

The couple decided to put that fear behind them and start T’NG Plumbing in 2011. Now, six years later, Gina and Todd are seeing big success, and are finding a way to repay the community they live and work in.

## OFF TO A SMALL START

Gina and Todd met in 2000, when she was an office manager for a plumbing company where Todd apprenticed. They married a few years later. “I always joke about

bossing him around when we met and now, running the company, I get to ‘boss’ him around more,” Gina laughs.

Times were tough for the newly married couple early on. “We were barely getting by,” Gina says. Then the fire struck in 2011 and changed everything. “We had nothing to lose then.

“We were basically ‘go or bust.’ The fire was the final push we needed,” Gina says. With a small investment of their own money, the Grundmeiers purchased a used 2000 Chevy Express van for \$2,000. They have since replaced that van with a 2015 Ford Transit 250; another staff plumber drives a 2006 Ford F-150.

“We were basically ‘go or bust.’  
The fire was the final push we needed.”

*Gina Grundmeier*

Among the company’s plumbing equipment is a General Pipe Cleaners Speedroter 92, a smaller General Super-Vee roter and a Bosch 60-pound electric jackhammer. They prefer Milwaukee Electric Tool M18 power tools, along with Lenox.





▲ HVAC-R technician Mike Maas restores heat to a home after checking the furnace gas pressure and wiring components.

▼ Dennis Oquist reseats a new toilet.



For bathroom fixtures, they prefer Delta Faucet Co. faucets, TOTO USA toilets, Hellenbrand water softeners, iron filters from WBT Water Treatment, Bradford White water heaters, Goodman furnaces and air conditioners, and Aker bath and shower bays.

## ADDING MORE SERVICES

The company initially only did plumbing, capitalizing on Todd's expertise. Todd's contacts in the plumbing world helped the company get its start. "He's kind and respectful," says Gina. "He cares about his job and takes pride in his work. I knew he could do it."

Todd started by servicing mainly residential and some commercial accounts in Mower County.

Using billboards and other advertising, Gina used Todd's face to up the recognition factor for T'NG. "We just hoped and prayed that advertising would start to bring in business," she says. "Todd's long-term goal was that for the first five years, he would work alone, and then consider adding employees later."

About 1 1/2 years in, however, business was growing so much that Todd needed to hire another plumber.

While residential service is the bulk of the work, including bathroom remodeling and renovation, the Grundmeiers discovered that clients were looking for heating and air-conditioning services as well.

"We really hadn't planned on HVAC," Gina says, but the couple found a technician well versed in heating and air work. That created T'NG Plumbing, Heating & Cooling. "We scrambled, but it was definitely a good move. We had been asked about it numerous times, so we knew the need was there."

The company hired Mike Maas, who brought 15 years of HVAC experience with him, along with some of his own equipment. Because of the added service, T'NG also added another service vehicle with a 2007 Ford F-250 van.

## PAYING IT FORWARD

Gina and Todd have faced a lot of challenges in their lives. Now the couple is using their business success to give back to the community that has helped them.

# A helping heart



▲ Co-owner Gina Grundmeier takes care of business in her home office. Beyond the typical business of T'NG Plumbing, Heating & Cooling, Gina also coordinates the Pay It Forward projects her company does.

Gina Grundmeier likes to stay busy, and not just with her Pay It Forward program with T'NG Plumbing, Heating and Cooling.

She's also the mom of two daughters. Her 15-year-old daughter has autism, and her 21-year-old daughter has schizophrenia. Because of that, she's made mental health awareness and treatment one of her passion platforms.

The Minnesota mom is a volunteer with many groups, including Parent WarmLine, an outreach program of the Parenting Resource Center of Austin, Minnesota. She also volunteers with Parent Advocacy Coalition for Educational Rights (PACER) and with the National Alliance on Mental Illness.

"I'm a huge advocate for mental illness awareness and work hard to help lessen the stigma that comes with it," says Gina.

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▲ The staff of T'NG Plumbing, Heating & Cooling. From left, plumber Dennis Oquist, owner Todd Grundmeier, apprentice plumber Micah Judy, owner Gina Grundmeier, and HVAC-R technician Mike Maas. The staff poses with the company's 2015 Ford Transit 250 service van on the grounds of T'NG's rural Dexter, Minnesota, headquarters.

Their devotion to help became stronger after the company won several community awards in 2014. T'NG won the Best in Mower County award for plumbing, voted on by readers of the *Austin Daily Herald*, as well as winning Business of the Year from the Austin Chamber of Commerce.

Shortly after winning the awards, the Grundmeiers created the Pay It Forward project, which helps rebuild

lives, one bathroom at a time. "After the best plumber award, I thought the most appropriate thing was to reach out somehow and thank the community for holding us in such high regard," says Gina. "That's when I came up with the Pay It Forward project.

"We got notified of the award in July, and in September, we were doing the project. September is not a slow time for plumbers or anyone else, but I just had it in my head. Since the concept was there, I wanted to move with it," she adds.

Gina's idea was to offer a bathroom remodel for a needy family. "That is one of the most expensive things in a home to update or repair," she says. "We thought that there are a lot of members in the community who needed things but don't always have the ability to do it for themselves, be it physically or financially."

She reached out to some other carpenters, electric contractors, floor contractors and others, and was able to get some of them on board. "I can be very convincing," Gina says.

Continued ▶

“After the best plumber award, I thought the most appropriate thing was to reach out somehow and thank the community for holding us in such high regard.”

*Gina Grundmeier*



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▶ Mike Maas checks the furnace gas pressure and wiring at a home in Austin that was having heating problems.

Now companies approach her to get involved, and her project is growing. Everything from labor to materials is donated. Large wholesalers who have contributed to the project include Dakota Supply Group of Rochester/Austin; Johnstone Supply, Rochester; WBT Water Treatment, Rochester; and, this year, Home Depot of Albert Lea.

Local families are nominated for the project. “We have a person or family nominated by friends or family members,” says Gina. “I want to know their story; everybody has a story.”

The first year, they had about 70 to 80 nominees, and the remodel was around \$25,000. Last year’s remodel topped \$40,000.

After facing her own personal and professional challenges, Gina feels pride in being able to give back. “God has a great big hand in our decision-making,” she says. “He guides us in the right direction.”

The community has taken notice, too. Gina was presented with the Woman of the Year award by The Zonta Club of Austin in 2015 at its Women of Achievement Banquet. “They look for a woman to recognize as having high achievements or contributions to the community,” she says. “I never slow down.”

As Gina prepares for her fourth remodel project this month, she beams at how the project makes her feel. “You’re



▶ Read about T'NG Plumbing, Heating & Cooling's latest Pay It Forward build at [www.plumbermag.com/featured](http://www.plumbermag.com/featured)

there because you want to help this family; it’s an absolutely amazing feeling. I’d like to start an epidemic with what we’re doing.”

## BRIGHT FUTURE AHEAD

Gina had always expected the company to succeed, but admitted that it has done better than what she had hoped. She and Todd, however, don’t want to see the company grow too much bigger than it is now: “We don’t want to be too big; we like where we’re at.” **P**

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## Groovy Wheels

Once popular with free-spirited hippies, vintage VW vans now give Chicago plumber a serious business advantage *By Ken Wysocky*

**W**hen Mike Goode pulls up on a job or at a parts depot, the owner of Goode Plumbing in Chicago gets his fair share of double-takes. That comes with the territory when a service vehicle is also a valuable collectible: A vintage Volkswagen Transporter van.

First introduced in Germany in 1950, the distinctive-looking, hoodless vehicles became strongly associated with the “flower power” subculture created in the 1960s by hippies. But for Goode, the Transporter is a serious service van that serves as a nimble rolling warehouse as well as a retro-cool marketing campaign on wheels that differentiates his company in a crowded market for plumbers.

Goode bought his first Transporter in 1995 for \$500. He eventually sold it, but he liked the van so much that he bought three more after he started his second plumbing

company in 2006 (the model years are 1973, 1974 and 1978). And he’s always on the lookout for more, though they’re getting harder and harder to find, he notes.

“One reason I went with more than one is their reliability,” says Goode of the vehicles. Also known as Type 2s (the beloved VW Beetle was the Type 1), the vans are powered by rear-mounted, air-cooled, boxer-type engines that generate about 70 hp. “No. 2,, they’re easy to drive and park in the city. And No. 3, they generate a lot of business.”

How much business? Goode says that’s hard to quantify exactly. But he points out that customers periodically mention the Transporters when they call in for service. “They brand our company big-time,” he says. “A lot of customers say it’s the coolest work van they’ve ever seen. We’ve also had photographs of the vans posted several



“A lot of customers say it’s the coolest work van they’ve ever seen.”  
*Mike Goode*

◀ Goode Plumbing, of Chicago, Illinois, uses Volkswagen Transporter vans as service vehicles. The company likes them because they are small enough to move around the large city.

► After finding a Volkswagen Transporter van, Goode Plumbing owner Mike Goode will make the repairs to it and place advertisements throughout.

“They’ve been very good at helping us with brand recognition. They really set us apart. It’s very competitive out there and we’re just trying to stay ahead of the game as much as we can.”

*Mike Goode*

times on the Chicagoland Petrolheads and Car Spotters Facebook page.”

Occasionally, the vans even impress competitors. “I was at a supply house one day and another plumber came out and said, ‘I’m going to call you for a service call just so I can see it parked in my driveway,’” Goode says.

Part of the vans’ appeal stems from the clean, streamlined logo and less-is-more lettering scheme on the vans’ exterior, designed by Chicago Sign Systems. “They’ve been very good at helping us with brand recognition,” says Goode, whose company primarily performs residential repair and drain cleaning services throughout the metro-Chicago area. “They really set us apart. It’s very competitive out there and we’re just trying to stay ahead of the game as much as we can. We like to deliver a unique service experience and the vans are a part of that.”

Goode says the Transporter’s outside dimensions are a little smaller than a minivan, but is larger inside, with 180 cubic feet of cargo space. To a degree, that somewhat limits how much each van can carry, so he says technicians have to plan ahead. For example, a 75-gallon hot-water heater won’t fit because of the van’s shelving configuration, so the company relies on supplier delivery for larger items like that. Moreover, since the vans are considered collector cars, sometimes it’s harder to find banks that are willing to provide financing to buy one.

“There are trade-offs, for sure,” he notes. “But for the most part, they work really well, especially with the traffic congestion and tight parking conditions here, which are brutal. The size of these vans is perfect. They can carry enough materials and supplies, but they’re not as cumbersome as a full-size van.”



<b>COMPANY</b>	Goode Plumbing LLC
<b>LOCATION</b>	Chicago, Illinois
<b>OWNER</b>	Mike Goode
<b>VEHICLES</b>	Vintage 1973, 1974 and 1978 Volkswagen Transporter vans
<b>FEATURES</b>	180 cubic feet of cargo space; rear-mounted, air-cooled, “boxer” engine that generates about 70 hp
<b>COST</b>	About \$20,000 (including storage/shelving and repairs/upgrades)

The company also owns a Mercedes-Benz Sprinter van, three Dodge ProMaster vans, a Dodge Ram C/V and a Ford E-350. Goode also owns a 1931 Model A Ford that he occasionally drives to check on jobs and run estimates for customers.

Inside, the Transporter is equipped like a typical service van. A bulkhead separates the cab from the cargo area, which is equipped with shelving and storage bins purchased from American Van, a manufacturer and retailer. Storage capability includes a four-drawer Pack Rat unit made by



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▲ While the outside looks like a normal Volkswagen Transporter van, Mike Goode has outfitted the inside with shelves to help store supplies. He stocks them with drain cleaning machines and pipeline inspection cameras.

WEATHER GUARD, a Werner Co. brand. “Some of the shelves had to be modified a little to get them closer to the walls where they curve toward the roof,” Goode explains. On the roof, he opts for a customized ladder rack made by Cross Tread Industries and three pipe carriers, also made by American Van.

Goode equips his service trucks with RIDGID K-50 sectional drain cleaning machines for sink, shower and floor drains; a RIDGID K-1500 sectional machine for larger drainlines, primarily residential laterals; and RIDGID SeeSnake pipeline inspection cameras. The Transporters carry about \$7,500 worth of repair-parts inventory as well as power tools made by RIDGID, Robert Bosch Tool Corporation and Milwaukee Electric Tool Corp.

Over the years, Goode has found that most of his technicians like the Transporters as much as he does. Whenever the company buys a new van, he tells technicians driving the Transporters that they can drive the new vehicle. But more often than not, they prefer to stick with the Transporters because they’re tailor-made for urban driving, he says. “I know I’m a little bit crazy about them, but I didn’t think the guys were, too,” he says with a laugh.

A self-described car nut, Goode — who says he once owned a souped-up 1967 Volkswagen Beetle — says he’d buy another Transporter in a heartbeat. Unfortunately, even though Volkswagen made more than 6 million Transporters between 1950 and 1990 (that includes only the rear-engine, snub-nosed first- through third-generation models), they’re hard to find these days. Goode says he found one of his Transporters in Canada, another one in Arizona and the other just five blocks from his home. “It had been sitting at a gas station for years,” Goode notes. “Some kid brought it in and never came back for it.

“They’re really good vans,” he concludes. “For a small service company like mine, they’re pretty hard to beat.”


## U.S. Boiler's Randy Fisher retires; Chris Mitchell promoted

U.S. Boiler announced that Western Regional Sales Manager Randy Fisher retired after 44 years' of service to the company. He will be retained by the company as a consultant and company ambassador. U.S. Boiler also announced that Chris Mitchell has been promoted to director of sales for the Mid-Atlantic and Western regions. In his new role, Mitchell will be responsible for directing the sales activity in a territory that extends from Alaska to Pennsylvania, and southward through Virginia.

## PHCC, Educational Foundation unveil two career resources

Designed to entice young people to the profession, the Plumbing-Heating-Cooling Contractors National Association and the PHCC Educational Foundation have released a new two-minute video that discusses the advantages of choosing a career in the industry. The video reviews statistics detailing the need for skilled workers and the low-cost options for education and training to prepare for a career in the business. The video can be viewed at [www.phccareers.com](http://www.phccareers.com).

## Hilti North America president and CEO Cary Evert to retire

Cary Evert, president and CEO of Hilti North America, will retire March 31. Over his almost four-decade career, Evert has held nine different roles after first starting with the company in 1980. He has served as president and CEO since 2005. 

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Judy Kneiszel

## 8 Payroll Tax Mistakes to Avoid

The IRS takes the withholding of funds from employee paychecks very seriously, and you should too *By Judy Kneiszel*

**M**aybe you're weighing the pros and cons of hiring your first employee. Maybe you've had employees for years and have been handling the payroll taxes yourself, but aren't confident you're doing everything exactly right. Or maybe you've outsourced the processing of payroll and hardly give it a thought. One thing is certain, where there are employees, there are payroll taxes, and where there are payroll taxes, there are opportunities for costly — even devastating — mistakes. Here are some of the most serious payroll mistakes:

**Mistake No. 1: Setting up a payroll tax program and never thinking about it again.** Business owners should continually evaluate and update their payroll programs to make sure payroll taxes are being properly withheld. State and local tax requirements can change over time, making it crucial to stay current.

**Mistake No. 2: Ignoring payroll tax issues when they arise.** When it comes to payroll taxes, the Internal Revenue Service doesn't mess around. If notified by the IRS of a problem, you must take immediate action or you could find yourself out of business. If a business fails to file or pay its payroll taxes, the IRS has the authority to shut that business down without a court order. They can seize machinery and equipment. They can also intercept funds customers owe the business.

**Mistake No. 3: Underestimating what a late payment will cost you.** Payroll tax penalties add up quickly and can dramatically increase the total tax bill. You can be penalized for failure to file, failure to deposit, and failure to pay. If the 941 Payroll Tax Return is filed after the due date and taxes aren't paid within 16 days of that filing date, penalties can be assessed, increasing the amount owed up to 33

percent plus interest. Falling behind and hoping to catch up usually doesn't work. In addition, not filing or paying payroll taxes is considered a federal crime. The IRS can send your case to the Criminal Investigation Division and then to the Department of Justice if they can prove you intentionally didn't file or pay. Procrastinating can cost you money, time, reputation and worse.

**Mistake No. 4: Paying other bills first.** If your business experiences a cash flow problem, you have to choose which bills to pay first. It's tempting to pay vendors or utilities first, but that's a mistake. Always make payroll taxes your highest priority. The dollars withheld from employees' paychecks for income, Social Security and Medicare taxes are not yours. This money does not belong to the business. These are called trust fund taxes. It is employee money held back for a specific purpose. As a business owner, you are personally liable for paying these taxes even if your business is incorporated or is a limited liability company. Skip a payment or pay late and the IRS will charge a penalty equal to the unpaid taxes, plus interest. If you don't pay the taxes, the IRS can seize your business' equipment and your personal assets. You could even be charged with a crime because borrowing from payroll taxes is against the law. A federal tax deposit made by a tax filing service, by phone using electronic funds transfer or in person at a bank must be made three days after payroll checks are issued. Using the withheld money for any other purpose is stealing.

**Mistake No. 5: Failing to keep accurate and complete payroll records.** Because the IRS is such a stickler on payroll taxes, you'll want to be an open book on how your company handles them. You are required to maintain payroll and have them available for IRS inspection.

These records include copies of W-2s, employee time sheets and other payroll records. Keep all information for at least four years.

**Mistake No. 6: Not knowing tax liability can vary by state or even county.** Hiring people who live in a different state than the one your business is located in can create unemployment tax liability in their home state. States have different rules regarding payroll taxes and rates can even vary by county. Check with a CPA or tax attorney familiar with the rules and regulations for the states and counties in question.

**Mistake No. 7: Improper timing of overtime and bonus checks.** Even if your company doesn't issue payroll checks weekly, overtime hours must be broken down in weekly increments or tax problems can arise. The same is

If you have employees, you must make the filing and paying of payroll taxes a priority.

true for bonuses. The payment of a bonus has to line up with the due date for payroll taxes. If the two payments don't sync, there could be tax implications. A penalty could actually be the thanks you get from the IRS for wanting to

reward an employee for a job well done. Don't be a Scrooge, just consult Bob Cratchit — or whoever crunches your numbers — and make sure any bonuses and overtime pay are timed right.

**Mistake No. 8: Not monitoring an outside payroll company.** By now you're thinking you should hand off payroll processing to an outside company, or you're congratulating yourself for already outsourcing this critical task. Yes, using an outside payroll company to handle the job of calculating withholding and transferring funds to the U.S. Treasury to cover payroll taxes can be a good solution. Keep in mind, however, that as an employer you are still ultimately responsible for payroll taxes. If you contract with a third-party payroll-processing company, make sure it is bonded for fidelity purposes. This means they have insurance to protect against losses, such as embezzlement by employees, not generally covered under normal theft policies. Also make sure tax funds your

company advances to them are held in a separate trust fund. Protect yourself and your company by monitoring your tax account to see that funds are being deposited on time and in the correct amount.

## A FINAL WORD

If you have employees, you must make the filing and paying of payroll taxes a priority. Don't hesitate to consult a CPA if you have any questions or concerns. Being overly cautious is much easier than dealing with costly mistakes.



*Judy Kneisz has operated her own small business for about 20 years and is familiar with the many rewards and challenges of ownership. Write to her with questions, comments or topic suggestions at [thewordhouse@ameritech.net](mailto:thewordhouse@ameritech.net).*

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# It's Not Just a Place You Toss Your Wrenches Anymore

The latest pickup toolboxes are engineered to offer the busy contractor improved functionality and a stylish truck accessory *By Peter Kenter*

**T**oolboxes used to be made of wood or steel and tossed into the back of a pickup truck, where they'd be strapped down to prevent sliding into the back of the cab at every red light and stop sign. Far from weatherproof, they'd rust and age over a few short years. A new generation of customized, rust-free aluminum pickup toolboxes has taken over, and while there's currently no revolution in their design, they continue to evolve to meet the needs of installers and other contractors.

While new toolboxes are far more functional and specialized than their primitive ancestors, truck owners have also become much more concerned about appearance, looking for boxes that complement their trucks and present a professional image, says Alex Golin, owner of Auto Truck Depot in Calgary, Alberta, Canada. They provide a wide range of truck accessories, from toolboxes to racks, bed covers, running boards, brake controllers, hitches and towing accessories through a retail store and online.

"We've come a long way from tool chests and work boxes," he says. "The next evolution was crossover toolboxes that sit over your bed rails, but still open up with one hinged flap. Next came the gull-wing style that you could open from either end. Finally, we saw the manufacturers combining toolboxes and auxiliary fuel tanks together in the mid-1980s."

## CHOOSE THE RIGHT STYLE

Regardless of style, the boxes are now largely made of diamond plate metal.

"Aluminum has become the most popular material for toolboxes," says Golin. "The metal is lightweight and it doesn't rust when constantly exposed to the elements. However, we still see some buyers on a budget choosing black or white steel."

Installers should be careful to choose a toolbox with an efficient design that meets their needs.



▶ A gull-wing hatch design offers convenient access from both sides of the truck. A single-lid crossover design allows bigger tools to be stowed in the box. (Photos courtesy of Highway Products)

▶ A sturdy diamond plate design offers durability.



"The single-lid crossover design is still our most popular style," says Golin. "Although you can conveniently reach into the gull-wing from both sides of the box, the design of the center hinge limits the size of tools you can easily store in it. The single lid allows you to store tools that measure the full length of the box."

Toolbox width remains relatively constant at about 21 inches. What is changing is the depth of the toolboxes.

"Deep-profile toolboxes go down about 19 inches and almost rest on the bed," says Golin. "We're now seeing low-profile boxes that only go down about 12 inches and still provide access underneath the toolbox, so you can carry lengths of pipe or full sheets of plywood."

If truck beds use tonneau covers or a fifth-wheel hitch, toolboxes must also be appropriately sized to fit.



◀ Color-matched toolboxes lend work pickups a cleaner, more professional look.

“The locks are surrounded by an enclosure so you can’t use cutting tools to access the padlock,” says Golin.

## COLOR TRENDS

He notes that contractors have become more concerned about how equipment impacts their company image in recent years, shifting their preference from exposed aluminum to aluminum painted in glossy black to match a preference for black pickup trucks.

“When you’ve got no chrome on your vehicle, the last thing you want to do is draw attention to this nice, bright shiny toolbox that looks nothing like the rest of your truck,” he says. “I’ve had one customer who is a contractor waiting six weeks to have a toolbox custom-painted in black, when an exposed aluminum model could have been delivered inside of a week — and the black box will be kept under a tonneau cover so you’ll only see it when he’s towing.”

“The single-lid crossover design is still our most popular style. Although you can conveniently reach into the gull-wing from both sides of the box, the design of the center hinge limits the size of tools you can easily store in it.”

*Alex Golin*

But even shiny black designs are beginning to fall out of favor for powder-coated matte black. “I was just talking to one of the manufacturers of tool/fuel combo boxes and they’ve completely switched their production line from shiny black to matte black,” Golin says.

Maintaining the toolboxes is simply a matter of washing them along with the truck.

“Even aluminum, when it isn’t washed, will see the dirt oxidizing the finish and turning it from shiny to dull,” says Golin. 📌

## TOOLS & FUEL

The three most popular sizes for larger auxiliary fuel tanks combined with toolboxes are: 43 to 50 gallons, 75 to 80 gallons and 92 to 100 gallons. However, each successive increase in capacity widens the toolbox base.

“The largest fuel tanks are 60 inches wide and you can only fit those models on trucks with beds 8 feet and longer that have a wheel well base located further back,” says Golin.

Tanks come bare bones with fuel caps, but optional accessories allow contractors to do anything from pump fuel using a hand crank to using an electric pump, or flipping a switch that feeds fuel directly into the fill spout of the main fuel tank via gravity.

While auxiliary tanks have primarily been designed to carry extra diesel fuel, Golin says that some manufacturers are now supplying gasoline tanks, offering double-walled designs to meet safety standards. “Not everybody drives a diesel and many contractors need to fuel gasoline-powered equipment on their job sites,” he says. “We’re now offering them and I think that a gasoline option on combo tanks will be an emerging trend.”

Proper toolbox mounting is critical — especially for fuel/tool combos.

“An 8-foot truck bed isn’t actually rigid,” Golin says. “It’s meant to twist. When you have a big toolbox combo unit bolted onto the bed and you’re driving over bumpy terrain and your truck bed twists, it’s going to cause the seals and the welds on the auxiliary tank to break. You can mount the combo box onto pressure-treated plywood and rubber on top of that to absorb the twisting motion so it won’t impact the welds and seams.”

Most toolboxes are impervious to thieves — it would require outsized effort to steal the tools inside. However, extra security is now available via a recessed padlock.



# Frozen Pipes Can Be a Real Mess

Specialized tools allow for thawing of pipes in a safe manner when pipes are frozen at a home *By MaryBeth Matzek*

**W**hen the temperatures dip below 32 degrees, plumbers know calls about frozen pipes will start coming in.

“When you get this cold, you pray you don’t have too many of those calls coming in,” says Jason Henning, a plumber with Trojan Plumbing Co. in Alsip, Illinois. “Frozen pipe calls are no fun at all.”

Henning recalls a case two years ago where the cold weather split the water main valve, and work had to be done inside and outside the home. The pipe going from the home had to be dug up and repaired. “It was minus 30 out and we put a tent up for some shelter outside so we could get the work done. We had to bring heaters out to warm up the ground so we could dig,” he says. “The machine we used to dig up the pipe kept getting stuck in the snow. It was just a miserable job.”

## WHERE TO START

When Ray Patricks, a master plumber with Roto-Rooter Philadelphia, arrives at a home with frozen pipes, he initially seeks to isolate the problem. Patricks, who is also the safety and training manager with Roto-Rooter for the northeast part of the U.S., looks to see if one fixture is affected or the entire house. If it’s one location, Patricks traces the hot and cold waterlines back to find the problem.

If all the pipes in the house are frozen, Patricks checks

for water pressure at the meter coupling. If he finds it, he traces the cold waterline path back into the building and work can be done internally. “On some occasions, the frozen waterlines

“Frozen pipe calls are no fun at all.”  
*Jason Henning*



▲ Roto-Rooter Philadelphia employees carry in a Titan Hydroxyl Generator and a Systematics Icebreaker 450 to help unthaw pipes at a home.

- ▶ A Roto-Rooter Philadelphia employee opens the back of their service van after arriving on a job site.



will thaw and open within a few seconds, and other times it might take several hours for a complete thaw,” Patricks says. “Unfortunately, almost every frozen pipe case is unique.”

When Henning arrives on jobs, he evaluates whether the work will be done inside or outside, and if pipes need to be thawed out or completely replaced. He tries to prepare in advance for the different scenarios.

## SPECIALIZED TOOLS

While plumbers use special pipe thawing equipment, Patricks says it is not uncommon for homeowners to try do-it-yourself methods before calling a plumber. He has arrived at many job sites after a homeowner has tried a hair dryer or propane torch to get the water moving. Patricks tries to caution people from thawing the pipes themselves since the methods are not always effective and there’s the risk that a pipe could burst.

“The extreme heat from a propane torch meeting the extreme cold of a frozen pipe could actually cause the pipe to shatter, potentially spraying a person with hot shrapnel,” he says. “There is also risk of catching surrounding building materials on fire with a torch.”

“The extreme heat from a propane torch meeting the extreme cold of a frozen pipe could actually cause the pipe to shatter, potentially spraying a person with hot shrapnel.”

**Ray Patricks**

The plumber’s thawing machine sends a small electrical charge through the pipe, which heats up the frozen section until the water starts moving again. That slow, steady effort is what works, Patricks says. Roto-Rooter of Philadelphia technicians use Systematics Icebreaker 450s to defreeze the pipes.

“We continue moving the machine down the cold waterline until the entire length of pipe is thawed,” he says. Once the pipes are unfrozen, Patricks walks around the entire property to check everything out.

“Sometimes a copper waterline will split from the extreme pressure caused by ice expanding inside. When

the pipe thaws out, the water will rush out of the pipe through the rupture, quickly causing substantial water damage to the property,” he says. “It’s best to be prepared to discover a water leak whenever you are thawing out frozen pipes by knowing where the shut-off valves are to quickly turn off the water so you can minimize water damage as much as possible.”

## INFORMING THE CUSTOMERS

Situations like the one Henning experienced two years ago reinforce the importance of prevention by making sure customers know what they need to do to keep their pipes from freezing.

“The important thing is to keep it warm in the home,” he says. “We’ve had two cases this year where people lost heat in their basement and had their pipes freeze up. We go in, shut off the water and repair the pipes. Once the heat is back on, the customer should be good to go and the water can be turned back on.”





## A Focus From the Start

South Carolina contractor surpasses goal, and keeps building and adding services to fit customers' needs *By Marian Bond*

**A**ll Clear Plumbing in Greenville, South Carolina, opened in 2012 with a goal of offering a full range of services focusing on plumbing and drain cleaning in the three surrounding counties.

From the beginning, the company invested in equipment and knew they wanted to be the go-to plumber for the area they serviced. The company has since grown to 15 employees and seven service vans. Of the work the company has, 70 percent is commercial and 30 percent is residential.

The family operation includes master plumber Scott Smith, his wife, Trina, and their daughter, Anja, who is a managing partner.



▲ Anja Smith, managing partner of All Clear Plumbing in Greenville, North Carolina

“I love that we are building a company that is part of the community. We are involved in local municipalities and chambers of commerce and service clubs. Giving back to the community; that is really rewarding.”

*Anja Smith*

**Q: When you opened your business, what were the basics you wanted to provide to your customers, and what was required in order to get things going?**

**ANJA:** We wanted to provide a full range of repair services. We invested pretty heavily in equipment from the get-go. We realized that to be successful we had to have a certain level of services in order to compete with other firms out there. We bought an inspection camera, and a good set of drain cleaning machines. We knew a plumber's hand tools are often his best friends, whether it is repairing a leaking faucet or tending to a water heater. From a large piece of equipment standpoint, we acquired a hydro jet machine within the first six months of opening. We bought longer-than-average cable machines for drain cleaning, and we were able to separate ourselves from other companies. We were able to go toe to toe with larger established companies as far as services offered. However, we did not envision the company growing to the size it is today.

**Q: What other equipment did you add as you grew?**

**ANJA:** We purchased an excavator for sewer line work, and we use a Ditch Witch directional drill for waterlines. This is a fairly heavy piece of equipment that allows us to be more precise. We don't need a giant hole in the ground for a waterline.

**Q: What do you look for in a manufacturer of equipment, particularly major purchases?**

**ANJA:** The big thing for us is making sure they will stand behind the product and work with us. We look to see what kind of warranty is offered, and how difficult it is to get parts if we need to service the item. Also if we need specialized training for our plumbers, and how that can be obtained.

**Q: Why did you add water and sewer line replacement to your list of services?**

**ANJA:** This is a natural extension of drain cleaning. There are a certain amount of calls you will go out on where the problem is not going to go away with a simple cleaning. There may be a collapse or other compromise. We have a lot of older homes here with ceramic lines that are falling apart.

We never want to have to pass the baton on to another plumber. This was one of our major sticking points from the beginning. Once we get a customer, we need to be able to meet the full range of services.

**Q: What new services might you include in the future?**

**ANJA:** We'd like to have a camera on every service vehicle. That's not a new service, but it expands our capability. Pipe lining is something we don't have, but there are not a lot of calls for that around here. Our water and sewer lines are pretty shallow.

**Q: What advice would you share with other firms thinking of expanding services?**

**ANJA:** Trust your own talent and be picky about who you hire. You want to be behind their work 100 percent. That is a big one. Also, if you take the time and expense to gain a customer, treat that relationship as though it is going to be long term.

**Q: What brings you the most joy in this business?**

**ANJA:** I love that we are building a company that is part of the community. We are involved in local municipalities and chambers of commerce and service clubs. Giving back to the community; that is really rewarding. I like that people recognize us as part of the fabric of the community. 📍



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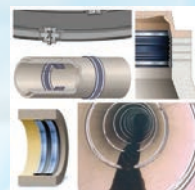
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# Rehabilitation and Repair | *By Craig Mandli*

## Bursting

### Pow-r Mole Sales Model PD-33M

The **Model PD-33M** pipe bursting machine from **Pow-r Mole Sales** is designed to replace existing underground pipes 2 to 6 inches in diameter. Its nonslip cylinder-activated jaws prevent cable damage while providing 60,000 pounds of pulling force. It offers a cost-effective alternative to open-cut excavation, which reduces customer disruption and increases company profits. The process replaces the existing pipe with a fused HDPE pipe, which eliminates all joints, and allows the operator to pull through bends such as 45-degree fittings. This system is modular, and can be easily disassembled and reassembled for manhole and basement applications. With a compact design and very small footprint of only 20 by 20 inches, this unit can be used in tight locations. **800/344-6653; www.powrmole.com.**



### RODDIE lateral pipe bursting machine

The lightweight lateral pipe bursting machine from **RODDIE** slides apart into two components of 50 and 60 pounds that can be lowered and reassembled by hand in the excavated pulling pit. In most cases this machine is powered and operated by a mini-excavator or bobcat tractor. It is capable of a pulling force of 30 to 50 tons, and can be used on 4-, 6- and 8-inch sewer laterals, but can also replace 1- to 4-inch water services. **888/406-3821; www.pipeburstingamerica.com.**

## Excavating

### Ditch Witch FXT65 Air

Equipped with air and hydroexcavation capabilities, the **Ditch Witch FXT65 Air** vacuum excavator is truck-



mounted and ideal for working in tight urban environments and for locating utilities in below-grade work sites. The machine optimizes airflow for a performance output of 1,215 cfm. Powered by a 74 hp diesel engine, it is designed for large cleanup jobs. Armed to meet the needs of virtually any-sized job, it is available with 500- or 800-gallon vacuum tanks and 200- or 400-gallon water tanks. The machine's rugged design and three-stage filtration includes a cyclonic filter to clean the air before it reaches the filter, which keeps the machine up and running, reducing downtime and maintenance costs. It offers noise reduction at 82 dBA and has an enlarged silencer for minimal disturbance in noise-sensitive areas. **800/654-6481; www.ditchwitch.com.**

### Hydra-Flex Switchblade

The **Switchblade** static, 0-degree nozzle from **Hydra-Flex** has the impingement and stream quality to allow operators to dig fast and use less water, providing greater efficiency on the job site. Designed for durability, this heavy-duty, high-impact nozzle operates at up to 3,200 psi and is constructed with stainless steel housings and tungsten carbide wear surfaces. The nonconductive urethane coating on the nozzle body works to extend the life of the nozzle while protecting the safety of the user and sensitive underground assets. A range of flow rates and spray patterns are available for different applications such as potholing and trenching. **952/808-3640; www.hydrflexinc.com.**



### VACMASTERS System 4000

The **VACMASTERS System 4000** air excavator has the brute force to dig deep down with air, exposing utilities in even the hardest soils without harming them. It allows technicians to dig faster and safer in soil that is hard, wet, sunbaked or compact, including ground frost. This unit provides operators with seven to eight minutes average potholing time and efficiency in backfilling with no mud hauling or disposal costs. It offers remote operation, a low-maintenance design, hydraulic-powered dumping, a supervisory control panel, self-purging filtration system and a fast-acting interceptor canister. **800/466-7825; www.vacmasters.com**

## Pipe Relining Equipment



### Avanti International AV-100

AV-100 acrylamide from Avanti International is an ultralow-viscosity, chemically reactive gel that has similar viscosity to water. It can permeate anywhere water can travel and has adjustable cure times from five seconds to more than 10 hours. It can be used to rehabilitate and sustain sanitary collections systems by eliminating infiltration in manholes, sewer mainlines, joints, laterals, and before and after various forms of CIPP lining. After lining, the chemical grout can be used to reinstate laterals. It creates an effective, long-lasting water barrier while providing soil stabilization. 800/877-2570; [www.avantigrout.com](http://www.avantigrout.com).

### Flow-Liner Systems Neofit

Neofit from Flow-Liner Systems is a noninvasive pipe lining system designed for small-diameter potable water service piping. The liner seals small leaks and pinholes from 1/2- to 2-inch copper, plastic and lead service piping. By cleaning the existing service line and installing the smoothbore thin-wall liner, flow rate is often increased. It is ideal for lead replacement programs, as it acts as a barrier between existing lead piping and potable drinking water. It is NSF-ANSI 61-G certified with a life expectancy of more than 50 years. The system is capable of lining lengths surpassing 300 feet. The technique necessitates minimal disturbance of surrounding ground, removing the risk of damaging other utility services. The absence of chemicals makes it environmentally friendly. 800/348-0020; [www.flow-liner.com](http://www.flow-liner.com).



### Formadrain DURAPOX

DURAPOX epoxy resin from Formadrain has a two-month open time, yet can be fully cured within 90 minutes. This means lining technicians don't need to worry about wet-out conditions, schedule changes or how long the install takes. The company can even do the wet-out in its shop and ship the liner ready to install. The steam-cured pull-in-place lining system can be used for lining laterals, spot repairs, industrial process pipes and lateral main connections. Pipe diameters range from 2 to 48 inches. 888/337-6764; [www.formadrain.com](http://www.formadrain.com).



### I.S.T. Services Elastotec Coating System

Create a seamless and durable new surface inside any pipe material without damaging existing structures with the Elastotec Coating System from I.S.T. Services. It can increase the life span of pipes with high resistance to pressure and chemicals. The Elastotec machine is easy to use and transport, and repairs 1 1/2- to 8-inch pipes with no wasted material or reinstatements. The spray-and-brush dual-applications system applies an elastoflake coating material is made up of a two-component polyurethane resin. It has a 90-second curing time, is ultradurable and chemically resistant. High elasticity avoids the cracks and tension that can arise from thermal expansion or other mechanical stress. 858/997-0004; [www.ist-web.com](http://www.ist-web.com).

### LMK Technologies T-Liner

The T-Liner from LMK Technologies is a one-piece homogenous main and lateral CIPP connection liner that is ASTM F2561 compliant. It has a uniform wall thickness and incorporates compressible lining material at the upstream and downstream ends, creating a smooth, tapered transition to the host pipe. Both the mainline and lateral sections are formed as a structural cylinder that renews 18 inches and 360 degrees of the mainline, and extends up the lateral pipe as one continuous lining. T-Liner with Insignia compression gasket sealing technology provides a verifiable nonleaking system. These compression gaskets are embedded between the host pipe and the T-Liner and are compatible with all pipe types, including polyethylene. 815/433-1275; [www.lmktechnologies.com](http://www.lmktechnologies.com).



### Nu Flow Technologies Nu Drain

The Nu Drain CIPP system from Nu Flow Technologies creates a protective, structural pipe inside an existing host piping system without the need for digging or destruction. CIPP restoration uses a liner saturated with epoxy to create a barrier that can span missing sections of pipe, which commonly causes low flow and root intrusion. The seamless and jointless CIPP is used to rehabilitate deteriorating sanitary drain and storm sewer lines, stopping leaks while controlling and preventing root intrusion. The technology is best suited for pipe 3/4 to 12 inches in diameter and larger custom sizes, while accommodating multiple 45- and 90-degree elbows. 905/433-5510; [www.nuflowtechnologies.com](http://www.nuflowtechnologies.com).







### Perma-Liner Industries Perma-Patch

The **Perma-Patch** system from **Perma-Liner Industries** can be used to rehabilitate a 2- or 4-foot pipeline section with a local spot repair solution. It uses a fiberglass mat with 100 percent solids epoxy resins,

creating a structural repair with a minimum life span of 50 years. The system is sold in a complete kit, so there is no measuring or waste. It is designed for 3- to 24-inch-diameter pipelines with cracks, holes and separation in joints. The Perma-Patch repair is inserted into the damaged pipe using an inflatable bladder, pushrod or pull cable. It is centered over the damaged pipe section and pressed tight against the host pipe area, creating a structural new pipe. **866/336-2568; www.perma-liner.com.**

### Picote Solutions brush coating system

A brush coating system from **Picote Solutions** can be used when traditional lining is not an option. By using brushes to apply the ASTM-tested 100 percent solids epoxy, the technician is in control throughout the entire application process. By using brushes and a mini cam, the technician controls the amount of epoxy deposited. This gives the operator full control over the epoxy by letting the brushes work in the material over joints or voids. The Smart Mixer easily mixes the dual-component epoxy at the touch of a button and has contrasting colors, which allows the technician to visually verify each coat of epoxy for a problem-free finish. **219/440-1404; www.picotesolutions.com.**



### Pipeline Renewal Technologies Quick-Lock

For stand-alone point repair, or for pre-lining under high infiltration, the **Quick-Lock** sleeve from **Pipeline Renewal Technologies** offers a rapid, easy-to-install and economical way to repair failing pipe. It restores the host pipe's strength with heavy-gauge 316L stainless steel, and seals out infiltration with a single-piece vulcanized EPDM rubber gasket. Suitable for sewer, water and industrial applications, a sleeve installs in minutes with minimal equipment and overhead. It is positioned inside the host pipe on a wheeled flow-through packer pushed by any standard CCTV crawler. Once in position, the packer expands the sleeve against the pipe wall to structurally reinforce it and stop infiltration. They are

available in diameters ranging 6 to 28 inches, and in lengths of 16 and 20 inches. Multiple sleeves can be interleaved to perform longer repairs. **866/936-8476; www.pipelinert.com.**

### Quik-Lining Systems Quik Heater

The 199,000 Btuh **Quik Heater** from **Quik-Lining Systems** can be used to accelerate the curing of CIPP lateral sewer liners. The system includes a boiler that can raise the cure temperature to a safe and steady 180 degrees F. The system includes a recirculation pump, temperature controls, flow controls, a water circulation manifold, and the supply and return hoses. The unit runs on propane, can be used indoors or out, and is mounted to a hand truck that allows it to be carried into basements, attics, roofs, or virtually any site to cure a liner in an hour or less. It can cure a liner up to 8 inches and 150 feet in length. Units can be ganged for larger or longer lines. **605/695-6778; www.quiklining.com.**



### Source One Environmental PipePatch Rapid

The **PipePatch Rapid** point repair system from **Source One Environmental** cures in approximately 30 minutes. It is engineered to ensure no guesswork, with all components included, such as a protective work surface, gloves, fiberglass mat, packer protection sleeves, tie secures and a two-part rapid resin bag. The point repair system uses a CIPP process to create a pipe within a pipe, with minimal change to the original diameter — all without an excavation. The rapid resin cures in approximately 30 minutes, meaning that CIPP repairs can be completed quick and at lower labor costs. **877/450-3701; www.s1eonline.com.**



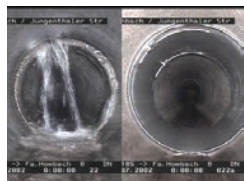
### Sprayroq SprayWall

**SprayWall** from **Sprayroq** is a 100 percent VOC-free, self-priming polyurethane lining that reinstates structural integrity while providing infiltration control and chemical resistance for concrete, steel, masonry, fiberglass and other surfaces of structures, allowing man-entry. Environmental and climatic factors such as freeze/thaw cycling, high humidity, or shrinking/swelling soil conditions have minimal effect. Its gold color is derived from its raw components' natural coloration. It provides coverage of 16 square feet per gallon at 100-mil thickness, and is applied using a heated plural-component spray system. Its quick curing time allows newly

protected structures to be returned to service shortly after application is complete. **800/634-0504; www.sprayroq.com.**

## Trelleborg Pipe Seals Drainplus 2.0

**Drainplus 2.0** liner from **Trelleborg Pipe Seals** is designed for rehabilitation of pipes with variations in internal diameter and bends. It has the ability to negotiate multiple 90-degree bends and overcome two changes in internal diameter. For example, the 4-inch liner has the ability to expand to 6 inches while still maintaining the required minimum 3 mm wall thickness and without any fins or wrinkles. The silicone coating provides high temperature resistance, and when used in combination with a range of epoxy resins can be steam cured without the need of calibration hoses. This allows fast processing time so the installer can achieve maximum productivity while ensuring the highest quality in terms of mechanical properties and required design wall thickness. **800/626-2180; www.trelleborg.com.**



## Rausch USA QuickLock Point Repair

**QuickLock Point Repair** from **Rausch USA** is a permanent no-dig trenchless pipeline rehabilitation installation that

has a 316L stainless steel sleeve encased in an EPDM rubber gasket, mechanically compressed against the inner pipe wall and permanently locked in place by two gear mechanisms. No chemicals or resins are used in this system, so there is no cure time. It meets ASTM Standard F3110-14 and is NSF 61 certified for use with potable water. Applications include repairing leaking or offset joints, fixing cracks and holes, preventing root intrusion, and closing unused laterals. It augments the structural strength of the pipe and is a permanent and reliable repair. The installation withstands and passes internal pressure tests. Since there are no chemicals involved, the system can be installed with flow. Applications range from 6- to 32-inch pipe diameter. **717/709-1005; www.rauschusa.com.**

## Rehabilitation

### CUES SPIDER

The **SPiDER** wireless, color manhole scanner from **CUES** can calculate its position in the




manhole shaft by using sensor data to measure its incremental motion. It weighs less than 30 pounds and can be hand-carried to easements or other difficult-to-access sites. The processing computer and battery supply are integrated into the scanner, which allows portability. The **SPiDER** also provides live video stream and recorded video that can be used for I&I studies. **800/327-7791; www.cuesinc.com.**

## Duke's Sales & Service JetPower II

**JetPower II**, a grease liquefier available from **Duke's Sales & Service**, is a liquid blend of surfactants and binding agents designed for applications through high-pressure sewer cleaning equipment for cleaning and controlling grease buildup in sewers, pump stations, wastewater treatment plants and manholes. Applied during normal sewer cleaning activities, the nonpetroleum-based product is mixed as a 1 percent solution either directly into the water tanks of the jetting equipment or an injector system, which can be configured for trucks, allowing for delivery of the product directly into the jetting system. When applied according to instructions, the agitation of the grease causes it to break down into very small particles. The surfactants are responsible for this part of the process, while the binding agents encapsulate and coat the tiny grease particles, creating the liquidity of the grease and preventing the particles from re-coagulating downstream. **800/447-6687; www.dukes.com.**



## HammerHead Trenchless Equipment HydroGuide HG1200

The **HydroGuide HG1200** winch from **HammerHead Trenchless Equipment** is designed to be more efficient and easy to use in pipe bursting, sliplining or slitting applications. It has a self-deploying hydraulic downrigger, improved performance and additional safety features. It makes setup easy with its hydraulic downrigger. With the touch of a button, users are able to automatically deploy the boom downhole and can fine-tune the depth to 18 feet without having to jack up the machine. With the hydraulic boom, setup and teardown take just minutes. Precision controls allow the user to adjust the boom to any depth, and also have total control of the line speed and pressure. Pull force is also adjustable. **800/331-6653; www.hammerheadtrenchless.com.** 





# Rehabilitation and Repair

By Craig Mandli

## Lining system saves time in apartment building renovation



**Problem:** An old apartment building in Valencia, California, needed to be gutted and redone. The inspection of the plumbing system determined that the main drainpipe leading to the city sewer system out of the building was buried 5 feet below the concrete floor of the parking garage. While breaking the floor was an option, the cost of doing so was out of the budget. The 8-inch line ran the entire 110 feet of the structure.

**Solution:** Horn's Backflow and Plumbing Service selected the **Quik Shot** lining system supplied by **Pipe Lining Supply** to install the liner. They opened up an out-of-the-way location on the parking garage floor to use as their single access point for lining. To get in and out in a short amount of time, they elected to heat cure the liner after installation.

**Result:** Technicians spent less than a day to completely build a new pipe inside the form of the old sewer pipe. 888/354-6464; [www.pipeliningssupply.com](http://www.pipeliningssupply.com).

## Unit helps pull new HDPE pipe through collapsed clay main



**Problem:** A residential customer in Germantown, Tennessee, was experiencing slow drains. Upon investigating, plumbers found extensive root infiltration in the home's main sewer line. They also discovered that the house had an old clay pipe that was collapsing and needed total replacement. Due to the condition of the pipe, relining was not an option. There were also several large, mature trees in the front of the home, coupled with a large landscaped berm forming a natural water barrier. Traditional approaches to trenching and replacing the sewer pipe were not possible.

**Solution:** The **Spartan UnderTaker** flawlessly pulled the new pipe through the old clay pipe — something that would have been nearly impossible without the proper equipment. In less than three hours, over 90 feet of failing clay sewer main was replaced with a new 4-inch HDPE pipe.

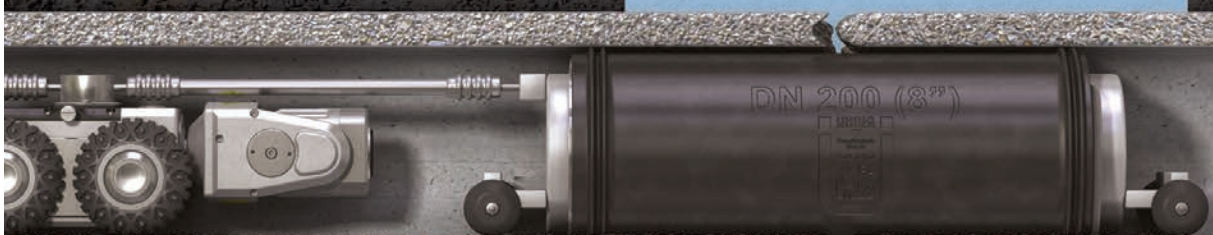
**Result:** The unit helped the homeowner avoid thousands of dollars in landscaping repairs. The home's occupants continued to use their sinks, showers and bathroom as the plumbing techs performed repairs on the line. While this was great for the homeowners, it is also a fit for commercial properties, such as supermarkets, where a complete closure would mean the loss of revenue. 800/435-3866; [www.spartantool.com](http://www.spartantool.com). 

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## Product Spotlight

Shark fractional-horsepower grinders designed for flushed debris

By Craig Mandli

**T**he Shark fractional-horsepower grinder series from Zoeller Pump Company is designed to handle difficult residential and small commercial applications where sewage ejectors struggle. These 115-volt, 12-amp maximum (807) circuit, all cast iron pumps can be installed as an integral automatic grinder.

“Shark grinder pumps are designed for sanitary applications where toilets are used but are typically chosen when a sewage ejector has repeated clogs or failures due to pumping debris not normal to a sanitary application,” says B.J. Hentrup, the product line manager at Zoeller Pump Company “This includes flushed items such as wipes, diapers and other nonspherical debris.”

Available in 1/2 hp (803), 3/4 hp (805) and 1 hp (807) models, these pumps offer performance heads up to 55 feet. Oil-filled for optimal heat dissipation, each model offers three independent cutting channels. Their Tri-Slice cutter technology provides over 300,000 cuts per minute, meaning flushable wipes, sanitary napkins, disposable and cloth diapers, and other debris found in today’s typical home are no match for this energy-efficient series.

“These pumps have been a great addition to the grinder family of pumps, as they allow us to offer better options than a standard 2-inch sewage ejector fighting clogs and the high costs of a 2 hp grinder,” says Hentrup. “They are

designed based on input from the field and against the toughest sewage debris in the world. We don’t settle for handling typical debris, but ensure our products combat the worst of the worst so our customers have peace of mind that their purchase will get the job done every time.”

Zoeller offers more than 20 different versions within the 803, 805 and 807 series of grinder pumps. These versions include standard automatic and nonautomatic operation, longer cord lengths, and 115- and 230-volt applications. According to Hentrup, the pumps are an answer to customer requests asking for more options in the grinder pump market. So far the feedback has been positive.

“The feedback received has been remarkable,” he says. “Being able to offer a grinder pump for any residential application no matter the requirements is a huge benefit we’re able to offer to their customers.”

Hentrup says that the pumps are designed for long life and heavy use. “When sized properly, installed and applied as designed, these pumps can stay installed and deliver the performance and longevity our customers have expected from us for 77 years.” **800/928-7867; [www.zoellerpumps.com](http://www.zoellerpumps.com).**



### Water Cannon Poly Drive cleaning machines

The Poly Drive twin-cylinder pressure washer from Water Cannon features a Honda GX 690 engine and industrial-duty General Pump TSP Series pump. The result is 6,000 psi of power for commercial and industrial cleaning applications. The units are also equipped with a Gates Poly Drive long-life belt system that is laser aligned. Standard accessories include a 50-foot pressure washer hose with quick couplers for continuous washing, four quick-connect spray tips, aluminum frame,



safety belt guard and a high-rated trigger gun and wand. **800/333-9274; [www.watercannon.com](http://www.watercannon.com).**

### VT Hackney Sprinter van shelving packages

VT Hackney released a line of aluminum shelving for select Sprinter van models. Standard kits are available for quick delivery and installation, but modifications can be requested. The shelving is lightweight and adjustable for storage trays or tools. Driver- and passenger-side kits can be purchased separately or as one package with top-shelf storage for ladders and pipe. **252/946-6521; [www.vthackney.com](http://www.vthackney.com).**

**CUES wireless 3-D SPiDER Scanner**

The SPiDER wireless, color manhole scanner from CUES can calculate its position in the manhole shaft by using sensor data to measure its incremental motion. It weighs less than 30 pounds and can be hand-carried to easements or other difficult-to-access sites. The processing computer and battery supply are integrated into the scanner, which allows portability. The SPiDER also provides live-video stream and recorded video that can be used for I&I studies. **800/327-7791; www.cuesinc.com.**



**Superior Signal 5E Electric Smoker**

The 5E Electric Smoker from Superior Signal offers a cost-effective solution to find difficult leaks and odors in residential and commercial plumbing systems. Connect the blower to any plumbing clean-out or vent or to the septic tank, and use an appropriately sized smoke candle to force smoke through faults and cracks to identify the sources of odor and hard-to-find leaks. It handles all residential and commercial smoke testing applications using smoke candles from 30 seconds to three minutes. Smoke tests take just minutes to perform and see immediate results. The unit comes with an 8-foot industrial-grade flex-hose, weighs just 8 pounds, and requires no maintenance. **800/945-8378; www.superiorsignal.com.**



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