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A full-page background image showing a male plumber with a beard and safety glasses, wearing a blue t-shirt and yellow gloves. He is working on a complex network of copper pipes, using a yellow propane torch to heat a joint. The setting appears to be a crawlspace or basement with wooden joists.

A STRONG SUPPORTING CAST

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BUILDING THE COMPANY
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- Ed Wodalski



On the Cover

Rozga Plumbing & Heating Corp. apprentice Eric Waltermann solders a joint as he and others install hot and cold water lines on the second floor of a Whitefish Bay, Wisconsin, home. Rozga Plumbing, based in West Allis, Wisconsin, has 30 employees and services an area around Milwaukee.

Photography by
Michael McLoone

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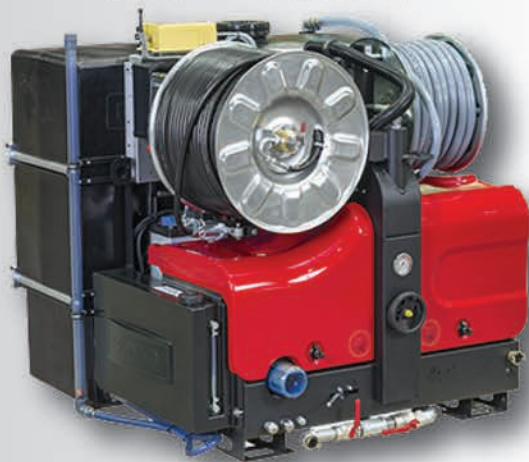
- By Craig Mandli



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Plumber

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Cory Dellenbach

Training the Newcomers

Apprenticeships are an important step in bringing in the next generation of plumbers

I

n this column last month, I discussed the different ways a plumber can attract a younger generation to the industry.

Lets fast-forward a little and say that young man or woman you talked to is now entering the plumbing industry and they are interested in working for you, but have no formal training or experience.

Don't throw that candidate aside. Talk to him or her about taking an apprenticeship with your company. Being a plumber's apprentice is a unique opportunity that combines on-the-job training with time in school. Your apprentice will develop skills as a plumber, which will eventually qualify him or her to become a fully paid, licensed professional.

Rozga Plumbing & Heating, profiled in this issue, has two apprentices on its staff being trained by four master plumbers and three journeymen. Owner Bill Rozga uses the apprentices as part of a larger support team for his plumbing staff, which allows the master plumbers and journeymen to stay focused on what they should be doing instead of something an apprentice, dispatcher or delivery drivers could handle.

That approach for the company, based in West Allis, Wisconsin, has allowed for continued growth and success in the last 36 years.

Having an apprentice on staff allows a company to have more manpower, while also training them in the ways of your company. Plus, you typically don't pay apprentices as much as you would your other employees because part of their payment is the education they are receiving.

"Apprentices keep a plumbing shop competitive," says Randy Lorge, who instructs apprentices at Fox Valley Technical College in Appleton, Wisconsin. Lorge offers tips

Having an apprentice on staff allows a company to have more manpower, while also training them in the ways of your company.

on how to set up an apprenticeship program in this issue's Smart Business feature.

After that apprenticeship is done in about five years, you'll have yourself a journeyman ready to hit the ground running, who won't require a lot of your time looking over their shoulder.


SETTING UP YOUR SERVICE VAN

After that apprentice has advanced to journeyman, it's time to stock up the next service truck or van for him or her. The Product Focus feature this month will give you ideas on service vans and fleet management tools. Not every plumber sets up a truck the same way. A lot of it depends on the area you work and what kind of services your company specializes in.

We highlight the equipment you might be carrying in your truck or van every month in our On the Road feature.

Is there a unique tool or piece of equipment that you use daily on your job that you think would make a good On the Road feature? Send me the details and your contact information to editor@plumbermag.com.

Who knows, you could be helping a fellow plumber find a tool he's been searching for to make his job easier.

Enjoy this issue! 

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CUSTOMER SATISFACTION

3 Communication Strategies to Make Clients Happy

Happy customers are the best kind of customers. They pay on time, they call back for more work, they leave positive comments on social media, and they tell their family and friends about your business. But knowing that you need happy customers and actually creating happy customers are two different things. Good communication is key. Here are some tips on how to approach it effectively. plumbermag.com/featured

OVERHEARD ONLINE

"An important new rule or policy should never be a conversation in the hallway or in passing over the phone. There should be a direct, intentioned conversation in a setting that allows employees to focus on the topic at hand."

— Helping Employees Embrace Change

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TRAINING TOOLS

Reinventing the Plumber Education Model

Mary Jean Anderson is not immune to an issue many plumbing company owners face — finding skilled workers. But instead of leaving it to chance or relying solely on a traditional method, such as recruiting graduates of technical school programs, Anderson decided to take a more proactive approach. She started her own plumbing and HVAC school. Learn more about how Anderson is creating a pool of skilled workers not only for her own company but others as well. plumbermag.com/featured



EFFICIENCY TACTICS

Plumbers Find Variety of Solutions to Boost Operations

Every plumbing company wants to become as efficient as possible in its operations. But there's no one way to get there. Here's a look at some of the methods companies that have been featured in *Plumber* in the past have used to improve their efficiency.

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A STRONG SUPPORTING CAST



Rozga Plumbing & Heating Corp., West Allis, Wisconsin

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Bill Rozga

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Wisconsin contractor creates support team for his plumbers to keep focus on quality work and customer relations

By Marian Bond |
Photography by
Michael McLoone

When Bill Rozga started his plumbing business 36 years ago, he didn't realize how quickly his operation would grow.

Rozga Plumbing & Heating Corp. was founded in 1981 and served only the residential plumbing market. However, five years later other opportunities began to come up and Rozga grew his company, based in West Allis, Wisconsin.

Three plumbers from the Rozga Plumbing & Heating Corp. staff, from left, third-year apprentice Eric Waltermann, master plumber/supervisor Bryan Pitrof and fifth-year apprentice Matt Roberts.

The company now employs 30, including four master plumbers, three journeymen, two apprentices and numerous support personnel. Rozga Plumbing & Heating offers services in the commercial and municipal markets in addition to maintaining residential work.

Rozga, a master plumber, still remains involved in the day-to-day work as well, taking service calls from time to time. "I will take my turn down in the ditch alongside the other guys," he says. "I am very much involved. I don't want to be just a button-pusher owner or manager."

“In the service industry you are reacting to what is presented before you.”

Bill Rozga

EXPANDING SERVICES

Five years after starting his company, Rozga began to see other opportunities — HVAC and water and sewer work for municipalities — that would allow it to grow.

Rozga now splits his services into three divisions, each led by a separate manager. The plumbing, HVAC, and water and sewer divisions each represent about one-third of the bottom line. In the plumbing division, about 70 percent of the work is residential and a small portion of that is remodeling and new home design and build.

Working on the remodeling projects or new constructions allows Rozga to work directly with the owner or general contractor, something he says he still enjoys doing.

While the company has grown significantly, Rozga has never added a showroom to the business, saying the expenses of adding one would not benefit the company. Instead, there is a conference room where staff can sit with customers and subcontractors to review projects.

BRINGING IN A SUPPORT STAFF

Because of the company's emphasis on providing services to a varied customer base, Rozga has a support system in place for his seven plumbers. That support system consists of truck drivers, material handlers and an office staff. Having the support system allows the plumbers to stay focused on the work and not have to worry about traveling back and forth for materials.

"If a plumber calls to say he needs a water heater that he did not expect to provide, there will be someone available

to deliver that to the plumber,” Rozga says. “Or if a water main breaks and you have to dig it up and we need fittings fast, we will have a material handler there to lend that support.”

The support staff consists mainly of young entry-level laborers who are getting the opportunity to see what they can do within the company. “We learn what their goals are,” Rozga says. “We give them an opportunity to try something and find what works best in his or her life. We first look for quality men and women and let them develop on what they may do as their work choice.”

In the office, Rozga Plumbing & Heating has a staff of dispatchers who control the flow as calls come in and know whom to call among those in the field. The company has eight telephone lines coming into the busy dispatch desk.

“In the service industry you are reacting to what is presented before you,” Rozga says. “The thing I’m most proud of is that we have that backup support here. Our master plumbers, journeymen and apprentices are never alone in the field because help is available to them one way or another.”

Continued ►



► Apprentice Eric Waltermann solders a joint as he and others install new hot and cold water lines on the second floor of a Whitefish Bay, Wisconsin, home.

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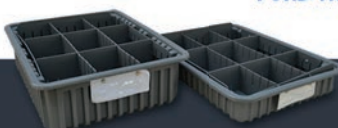
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▶ Rozga Plumbing & Heating's master plumber Bryan Pitrof solders an air chamber into a laundry water line.

That proved to be true when one of the plumbers in the field responded to a service call at 2 a.m. After arriving at the scene, he realized there was more there than what he could fix himself, and by dawn the water and sewer division was also at the job helping.

"You cannot orchestrate that or design that kind of response," Rozga says. "It was discovered and implemented as we went along. My company is organized and set up in a way that we can support each other."

Rozga Plumbing & Heating plumbers are scheduled like chess pieces, being moved around as needed to get to the greatest amount of jobs while still having some available for emergency calls.

The entire staff gets together once a month for meetings. Typically they'll meet by division to train the employees and go over anything that comes up on jobs. "We study current policies, new products and have continuing education all handled in-house," Rozga says. "That way we know everyone is getting the same training."

TAKING CARE OF THE FLEET

A key piece to that support staff is the company's in-house mechanic. With 16 service vehicles, properly caring for the fleet, and all related equipment, is an important element of the operation.

Continued ▶

Getting more social

When Bill Rozga founded his company, Rozga Plumbing & Heating Corp., in 1981, the biggest form of advertising was the yellow pages in the local phone book.

Now, 36 years later, there is no more ad in the phone book and Rozga relies heavily on the internet and social media. The company has over 1,200 reviews on its website from customers.

"There is nothing gleaned by putting your name in a book," says Rozga. "Right now the industry is driven by social media. That is where people find the information. When we get to a job, the customer will already know as much about us as they want to know because they've done their homework ahead of time."

Customers will check out the company's website, look at the reviews and even talk with other customers of Rozga Plumbing & Heating.

"They will have done their due diligence long before we get to the house," Rozga says. "People want to know who they are dealing with. It is important to inform a customer about who you are and what you do."

The company's website has photos of the staff, a brief history of the company, its certifications and memberships, and a list of offerings.

"Sometimes we will get a pure cold call if it's an emergency, like if someone breaks a water main, if they have water heater issues or if they have no heat," Rozga says. "But those calls are few and far between."

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▶ Bryan Pitrof prepares to pull down a new PEX water line from the second floor.

▼ Matt Roberts feeds PEX tubing down to the basement from the second floor.



The mechanic heads up the 2,500-square-foot shop that sits on a 2-acre site along with the company's 7,000-square-foot office and conference room.

"The reason we go to the expense of an in-house mechanic is because of the unique nature of our company," Rozga says. "We do a lot of specialized design and build and fabrication; things that are not normally purchased at a wholesale house."

The service vehicles are Ford 1-ton cargo vans and full-size walk-in step vans. With a mechanic on staff, the company has gotten more mileage out of the vehicles.

"For us to have a 30-year-old service van is not unusual," Rozga says. "We buy a lot of aluminum-body vans and you can put engines and transmissions in them all day. As long as the vehicle has not been in a wreck, we keep it on the road indefinitely."

The rest of the equipment includes two Mack, quad-axle dump trucks; GMC and Ford dump trucks; and a CASE

front-end loader for work around the shop. "It's all owned outright and maintained in-house," Rozga says. "This gives us the versatility and ability to take a call at 2 a.m. and have our mechanic available for any special needs."

Other equipment includes drum machines and cameras (RIDGID), power tools (Milwaukee Tool) and boring equipment (TT Technologies).

"There are things we design and build with custom-fabricated fixtures that cannot be found in a wholesale house, so that is a big advantage with our mechanic," Rozga says.

Rozga adds that the company doesn't maintain a large inventory for standard parts, with sufficient supply houses nearby that will deliver upon request. It also helps him not have a lot of money tied up unnecessarily. On the plumbing side, the company prefers fixtures from Moen, Kohler and GROHE.

DOCUMENTING THE WORK

With the large staff, Rozga says he depends on communication to keep the employees in contact with one another and to keep track of the work they are doing.

"Communication is very important and we are in contact with each other through text and email," Rozga says. "I can be anywhere and looking at what my guys are doing. If they get into a jam or need a second opinion, they'll have it."

Continued ▶

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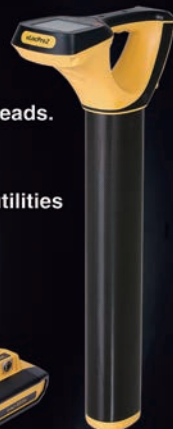
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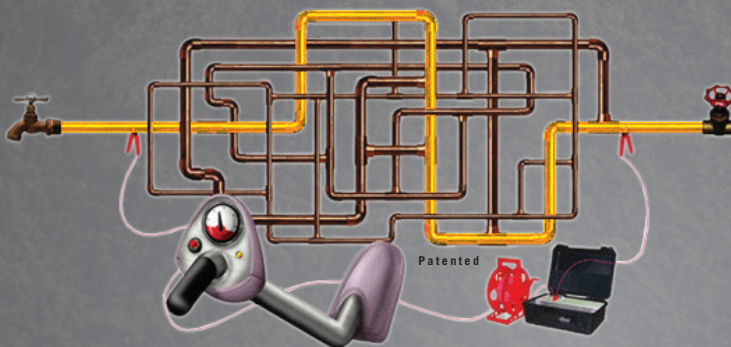
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“I take very personally what God has given me in responsibility. I share with my employees their personal joys and grief.”

Bill Rozga


Plumbers on the job take photos of their work as standard procedure and those images are then put into the customer's file on a computer to refer back to.

“We want to know the make, model and serial number of the equipment,” Rozga says. “If a special situation requires a photo, we can add it to the file or if there are extenuating circumstances and something has to be done or changed, we can go back to the photo.”

Recording of the work can also be beneficial to the customer, especially if they decide to remodel in the future. “We have records that go back years upon years,” Rozga says. “We're proud of the fact that we can recall those things when the customer asks.”

SEEING THE GROWTH

Rozga says he is most proud when he sees the personal development in his employees.

“I take very personally what God has given me in responsibility,” Rozga says. “I share with my employees their personal joys and grief. I want them to feel free to come to me and to feel comfortable, and I'm grateful to be able to give them a living wage and benefit package and to see them grow and develop.” 

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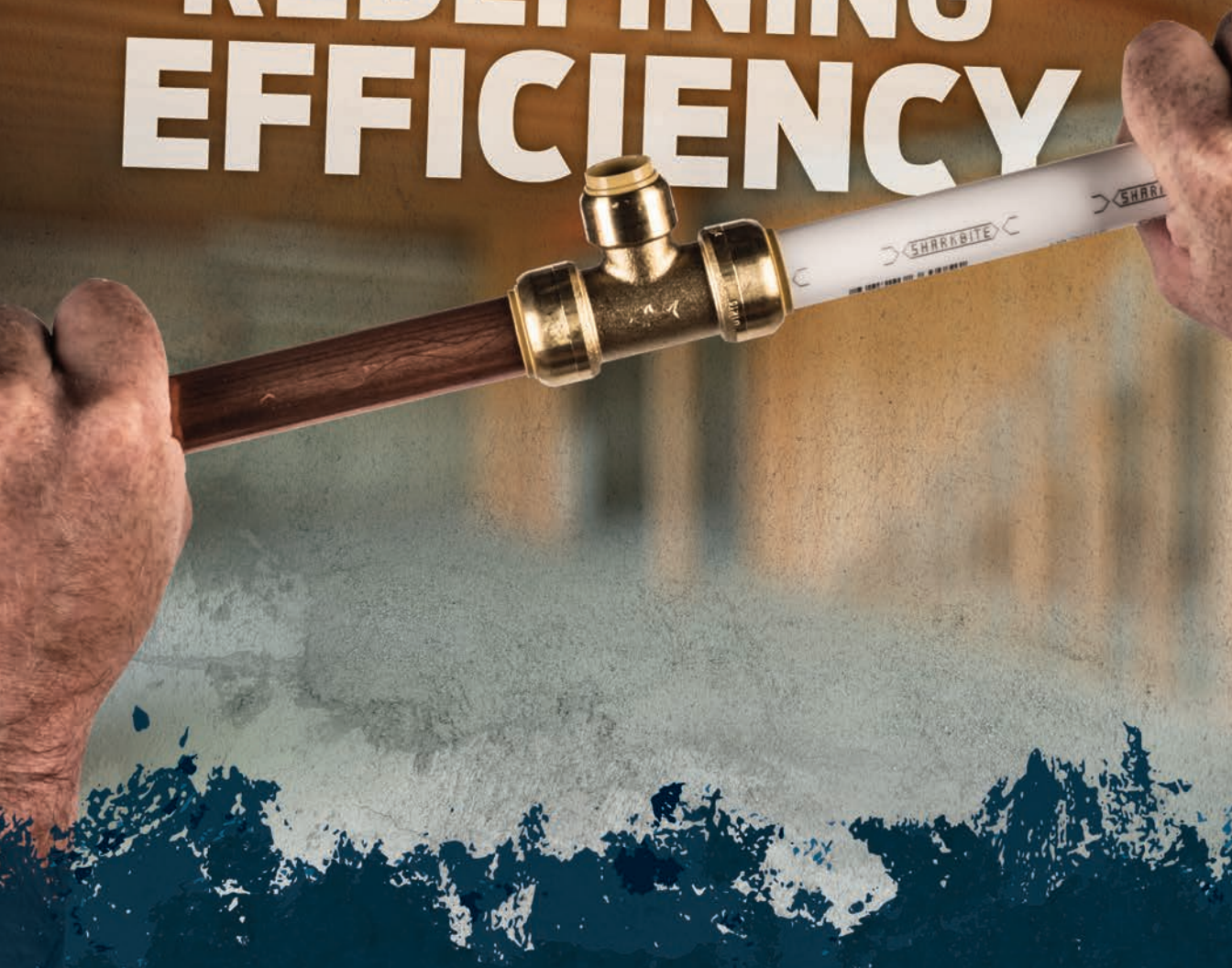
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Detection Connection

Leak-sensing AquaTrip system allows plumber's customers to rest easy, and enhances company's image as a technology leader *By Ken Wysocky*


Sometimes embracing new plumbing technology doesn't result in a significant bump in revenue or productivity. Instead, it might lead to things less tangible but equally important: Giving customers peace of mind and enhancing your company's image as a progressive, high-tech outfit.

That's what master plumber Dave Smythe experienced after he decided, about two years ago, to offer customers AquaTrip water-leak detection technology, made by AquaTrip Australia Pty. Ltd. It's distributed in the U.S. by Golden State Flow Measurement and by DC Pro in Canada. Smythe is the owner of DS Plumbing in Canada's capital, Ottawa, in the province of Ontario.

"The AquaTrip isn't the biggest moneymaker for us," says Smythe, whose company — established in 2004 — primarily focuses on residential service plumbing in the metro Ottawa area. "But it gives our clients a little extra peace of mind. It also enhances our reputation as a good, solid company that can provide advanced solutions that work and serves the best interests of customers. We try to be at the forefront of technology and this is one avenue that allows us to do that."

The AquaTrip device is essentially a programmable shut-off valve that's installed on the water main, just downstream from the water meter. In rural areas, it would be located downstream from devices such as iron filters or water softeners. The device features wireless programming, and serves as a water trip switch that monitors all water pipes, fittings and water-using appliances. If it detects water flow that exceeds normal usage patterns, it automatically shuts off the water supply. A remote control allows homeowners to easily restore water supply and reset the valve with the touch of a button, Smythe explains.

"It will sense everything from a dripping faucet to a pinhole-size leak in a pipe, to a hose that's accidentally left on in your garden," Smythe says. "It's a smart device in the sense that it can be programmed to be sensitive (to



COMPANY	DS Plumbing
LOCATION	Ottawa, Canada
PRODUCT	AquaTrip water leak detection system from AquaTrip Pty. Ltd.
FUNCTION	Automatically shuts off water supply when a leak is detected
FEATURES	Automatic water shut-off when leak is detected, programmable technology, remote-control operation, one-touch reset, easy installation
COST	About \$300 Canadian (\$230 in U.S. dollars)
WEBSITE	www.dsplumbing.ca

excess water flow) during certain times of day or even during vacations. It actually detects abnormal water flow, unlike other devices that purely detect wetness in an area."

To avoid unnecessary and annoying water shutdowns, homeowners can program the device to suit their lifestyles, including settings for daily peak flow, standard flow or even exclusion periods in which unlimited water use is required. If most family members shower in the morning, for instance, the device can be programmed to accept that as normal and not shut the water off. The device also offers a self-learning feature, similar to thermostats that "learn" a homeowner's daily heating and cooling preferences over



▲ DS Plumbing technician Trevor Sisson installs the AquaTrip water leak detection system from AquaTrip Pty. for a customer in Ottawa.

“It will sense everything from a dripping faucet to a pinhole-size leak in a pipe, to a hose that’s accidentally left on in your garden.”

Dave Smythe

time. Moreover, a one-button override function allows homeowners to shut the device off if needed.

Installation usually takes anywhere from 30 to 45 minutes. First, the water system must be drained completely. After that, plumbers must cut out about a 6-inch-long section of the water main, then place connectors on each end of the valve body and install it in the vacated section of pipe. The last step: Screw a sensor head into the valve body, then turn the water back on and run a test to be sure the device works properly.

The device can be installed horizontally or vertically. If installed vertically, it requires a special elbow fitting because the sensor head will work only in a vertical position, Smythe says.

Testing the system and fixing any existing plumbing leaks is essential to ensure proper operation and avoid nuisance shut-offs. For example, a bad toilet flapper will trigger continual water shut-offs. On the other hand, repeated shut-offs that occur after installation are a good indicator of a plumbing leak that might otherwise go undetected, another valuable service for customers, he notes.

The AquaTrip unit costs about \$300 in Canadian currency (that’s about \$230 in U.S. dollars, according to the current conversion rate). Some insurance companies will pay for installation, while others will offer customers that use the technology a discounted annual premium. Why? Paying claims for damage from water leaks is much more expensive for insurance companies than paying for the device.

Smythe says DS Plumbing technicians are trained to listen carefully to customers to see if they need a leak-detection system, as opposed to always trying to upsell the product. “Educating customers is a big

part of our service calls,” he points out. “If a conversation with a customer reveals past flooding issues or that the client travels a lot, then we see if there’s any interest in the AquaTrip technology. Every service call presents an opportunity, for sure, but we’re not pushy about it. ... If our technicians listen to customers properly, we can provide them with good solutions to problems.

“When our technicians tell customers about the product, many of them want to find out more about it,” he adds. “Most people say, ‘Wow, I didn’t know there was a device that can do that.’ It’s just another great solution we can offer our clients and ensure they’re getting the level of service they need.” **P**



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Training the Next in Line

Apprenticeship programs build a company's workforce at a reasonable cost, while also educating the next generation *By Giles Lambertson*

Why would a plumbing contractor hire an apprentice? How about this reason: It's good for business.

"Apprentices keep a plumbing shop competitive," says Randy Lorge, who instructs apprentices at Fox Valley Technical College in Appleton, Wisconsin. The edge comes from apprenticeship wages being comparatively low — first-year apprentices make about 40 percent of a journeyman plumber's pay. "So there is an economic advantage to having apprentices working for you. Plus you get to teach them the way your shop does things, which makes your shop more efficient."

"I have a good share of young people in my classes who have four-year degrees from college but decided to pursue a trade."

Randy Lorge

SETTING UP A PROGRAM

If a contractor values operating efficiency and low operating costs, a plumbing apprenticeship program should be part of the business plan. A program begins when a contractor contacts a technical college or union hall to arrange an interview of an applicant by an apprenticeship committee. Wisconsin has more than 100 of these trade committees.

The committees are comprised of union or nonunion plumbers, along with business association representatives. Committee members assess and interview apprenticeship applicants and recommend those deemed suitable for the



▲ A plumbing apprentice works on equipment at Fox Valley Technical College in Appleton, Wisconsin, as part of the apprenticeship program. (Photo courtesy of Randy Lorge)

program. After an apprenticeship contract is signed — stipulating wages and the amount of required training — the committee and a training center work closely with the state Department of Workforce Development to monitor an apprentice's progress.

In Wisconsin, the program runs for five years. Across the country, most plumbing apprenticeship programs are either four or five years long. At the end of the five years,

an apprentice will have completed 572 instructional hours while on the clock and another 260 hours in a classroom without pay. This is in addition to a required 8,000 hours on the job in hands-on learning.

“All of those numbers are required by the apprenticeship contract, and are recorded and reported to the committee,” Lorge says. “When an apprentice completes all that, they can write a ticket for a job in Wisconsin and in every bordering state for sure.” Some 100-150 apprentices are enrolled in the Fox Valley program each year.

To ensure that the work of apprentices on the job is well supervised — in other words, that the apprentice is being trained and not just worked — Wisconsin stipulates ratios of journeymen plumbers to apprentices. The ratio varies according to the size of a business. For example, if a shop has two licensed journeymen on staff, it can hire one apprentice. With three journeymen, two apprentices are allowed. Four journeymen qualify a shop for three apprentices, and so on.

VARIED EXPERIENCE

Before he became an apprenticeship instructor at Fox Valley 18 years ago, Lorge was a third-generation plumber who began his career as an apprentice. Not every apprentice applicant has such a pedigree.

Most are young people just out of high school and idly looking around for a career. Minimum requirements are to be 18 years old with either a high school diploma or a GED. Sixteen-year-olds in school can enroll in a pre-apprenticeship program. A general knowledge test is given with a minimum passing score required of test-takers. If the test is not passed, classes are given so an applicant can improve his, say, math or language skills and be retested.

The average age of apprentices is 21 or 22. Yet Lorge is instructing a 49-year-old with a restricted plumber's license — he can work on water softeners only — who wants to become a journeyman. “And I have a good share of young people in my classes who have four-year degrees from college but decided to pursue a trade.” During Lorge's tenure at the technical college, one female apprentice has enrolled. She completed the program and is working in a family shop.

August Winter & Sons is an Appleton mechanical contracting and fabricating firm heavily invested in apprenticeships. It employs about 10 apprentices at any given time, with half that many in pre-apprenticeship training.


Project superintendent Tim Schumacher says candidates for the positions are sourced from a variety of places. Applications for the program are widely distributed. “And some co-workers have relatives with kids who want to get started in the trade. So they start as pre-apprentices and, if it all works out, they move up.”

Schumacher himself started as a pre-apprentice and then an apprentice 24 years ago. He says at least 95 percent of August Winter & Sons apprentices complete the course and become licensed plumbers. What then? “We normally keep them. That's our goal. We groom them for our work and try to keep them.”

DON'T HURRY THE PROCESS

With the plumbing industry evolving from lead to copper to polyethylene piping, from cast iron to PVC for drainpipes, “it is a constantly changing trade,” Lorge says, making a case for a five-year apprenticeship. “There is a lot to learn about materials and techniques. Our courses go into interpretation of code rules and laws. We take the laws that have been written by lawyers and break them down into a layman's terms and show how to design systems that are compliant with the codes.”

Contractors shouldn't try to hurry the process, Lorge counsels. “Probably the biggest problem a contractor has is the attitude of ‘We have to get this done right now.’ As a result, apprentice training is set aside. Sometimes an apprentice is assigned work that a journeyman should be doing, in violation of the apprenticeship contract.” If a state inspector catches a contractor bending that rule, repercussions follow. Between the fourth and fifth years, the policy is liberalized so an apprentice can work independently if they are taking additional coursework.

Plumbing apprentices are not just a good deal for plumbing contractors. Schumacher believes they are wonderful opportunities for young people. “You can start at 18 and in just five years be making \$70,000 to \$80,000 a year — and with no expense. You can go to college and come away a hundred thousand dollars in debt.” 

“Apprentices keep a plumbing shop competitive.”

Randy Lorge

Becoming a Busy Bee

Kentucky plumber adds septic services and develops a new customer base while learning the ins and outs of business management

By Marian Bond

Boyce Elza's experience as a plumber and business owner goes back to 1994. His most recent venture, Busy Bee Plumbing, opened in 2008 in London, Kentucky. In 2012, he acquired a septic service business, allowing him to provide a more complete line of services.

With an engineering degree, and former business interests that include new construction, Boyce is realizing his ambition to build the business while encountering the many challenges that face the industry today.

Q: What do you consider to be the No. 1 challenge for plumbers?

BOYCE: We plumbers are trained to fix things. Even with an engineering degree, we are not taught how to do the best business practices. We're not trained how to make business plans or how to do market research. When you

talk business to most plumbers, their eyes glaze over and we get lost in our own world and do not hear what is being said. Plumbers need a good business coach.

Q: What have you learned from your various business ventures over the years?

BOYCE: Not to get so much overhead that you cannot handle it. The biggest challenge is watching the money coming in and going out. Another is not getting the regular paycheck as when you work for somebody else.

We at Busy Bee want to pay cash for what we buy. We started this company with one old plumbing truck that we paid cash for. When we bought the septic business we got the pumper truck and the telephone list. It was not a big dollar investment. We've had that telephone number since we bought the company and we still get telephone calls from that.

Continued ▶



▶ Boyce Elza, owner of Busy Bee Plumbing, stands near one of his service trucks at the company yard in London, Kentucky.



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“We plumbers are trained to fix things. Even with an engineering degree, we are not taught how to do the best business practices.”

Boyce Elza

Q: Did including the septic business provide a needed service for your customers?

BOYCE: Sometimes we would get to a house where they had stopped-up lines going to the septic tank. The whole house was backed up and we used to call the septic people to come. When that company was looking to sell, it was a good match for us and a good acquisition for us.

Q: Tell us about the area you serve. Are you near a metropolitan area?

BOYCE: We don't go much into metropolitan areas. Lexington is about 70 miles north and Knoxville is about 70 miles south. We mostly serve the small towns but we'll go about a 100-mile radius.

Q: How is the company doing right now?

BOYCE: I figure we are in the middle of growing pains right now. In 2016, I was doing all the work except driving the septic truck. I was killing myself. Now I have a journeyman plumber and one technician who runs the septic truck.

Now I can spend time figuring out how the business will grow and if we should go into the lining business. We do about 70 percent work in plumbing and 30 percent in septic.

Q: Your family works in the office?

BOYCE: My wife, Tammy, runs the office and my daughter, Lindsey, takes care of our website and social media, and my brother, Stanley, is our bookkeeper.

Q: Was having both residential and commercial clients something you planned when you started Busy Bee Plumbing?

BOYCE: We do about 50 percent commercial and 50 percent residential. It was not something we planned. It works out that you find yourself available to do the jobs that come in.



▲ Boyce Elza and his wife, Tammy, stand outside their company shop.

For commercial customers we do a lot of drain cleaning, especially for restaurants and for property management firms. We take care of Walmart and Big Lots, overseeing all their mechanical needs.


Q: What is your policy on buying equipment?

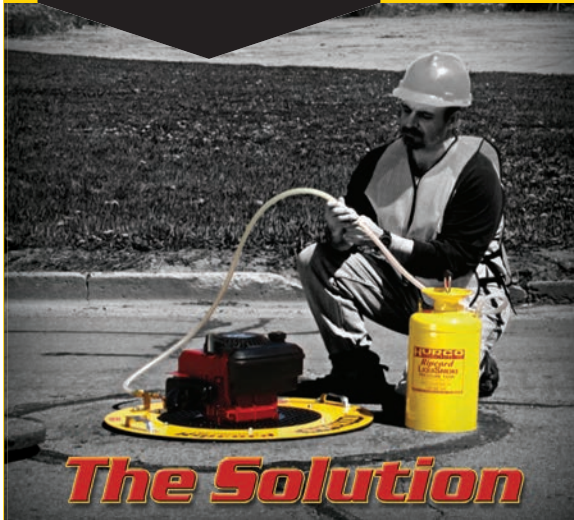
BOYCE: We have had the policy to pay cash for equipment and not to buy new equipment. I have a Mongoose trailer jetter that I found in a junkyard. I needed a jetter and we use it quite a bit. I couldn't afford to buy a new one.

Last spring I got a little foolish and bought a Dodge Pro-Master. We've always paid cash. Now I have a payment and I don't know if I like that. But I love that vehicle. I can stand up inside and have plenty of room and it is air-conditioned. I don't have to worry about it breaking down.

At the same time, we have a 2004 Chevrolet 3500 van that we use. It has 250,000 miles and still works for us.

Q: You have the store while many in your area work out of their truck. Why was it important for you to establish your business this way?

BOYCE: Because I wanted to build something that I could sell or pass on to my daughter. That is my ambition. We are on a main drag, and we are highly visible. 



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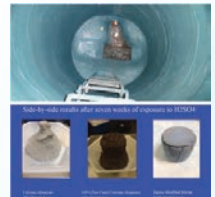
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Smooth Under Pressure

Colorado contractor turns to a new pipe coating system to rehab failing coolant lines *By Joe Bradfield*

The town of Windsor, Colorado, had completed a large-scale remodel of its town hall and surrounding grounds. The landscapers and pavers could not know they had just laid the finishing touches of a beautiful makeover above two coolant lines on the brink of failure.

The two 113-foot-long, 4-inch Schedule 40 PVC lines had begun losing glycol.

When the city's maintenance supervisor found himself repeatedly topping off the system's coolant levels, he called on Snowbridge Inc. of Breckenridge, Colorado. Founded in 1976 by the parents of its current owners, Bill and Chris

Tatro, Snowbridge has grown into a 16-person operation serving the central Rocky Mountain region.

Cured-in-place pipe is one of the company's specialties, and Snowbridge has been lining pipes since 2004. "Our dad was always looking for the right tool for the job," says Chris. "He didn't shy away from new tools and products that came from overseas. In fact, reinstatements can be a problem in CIPP, but I think we owned either the first Picote Miller in the country or were right in line behind the guy who did.

"I operate the company same as Dad did. I don't use just one tool for everything but find the correct product for each job."

FORMING A PLAN

Tatro thought the Windsor project would be another CIPP candidate, but first he had to figure out what he was dealing with. Unlike sewer lines laid at a grade so they can drain, the coolant lines were level. The glycol in the lines made them difficult to inspect.

"The video we received didn't tell us much," he says. "We video-inspected it for ourselves, but the glycol made it impossible to see anything. We just couldn't tell if there were holes or an actual break."

The project also presented some challenges for liner inversion. The two lines, running parallel 18 inches apart, made a 45-degree bend 98 feet from the mechanical room side. The last 12 feet rose vertically to the cooling tower through 90-degree, pressure-rated elbows — an almost impossible obstacle due to their tight radius.

"I had concerns about getting a liner that long to negotiate a 90-degree elbow and then dragging the rest of the liner through it. I could also have a problem



◀ Chris Tatro (left) and Ever Leon apply a coating to a cooling line at the Windsor Town Hall while watching progress on a CCTV monitor.

▶ Since the work was done without excavating the pipe, daily activity in and around Windsor Town Hall wasn't impacted at all. Visitors entering and leaving the parking lot had no idea that pipes below their vehicles were being rehabilitated.

Breckenridge, CO

COMPANY Snowbridge Inc.

LOCATION Breckenridge, Colorado

OWNERS Bill and Chris Tatro

SERVICE OFFERED Residential and commercial drain cleaning, pipe bursting and relining; septic tank and grease trap pumping; septic system inspections, installations and repairs

WEBSITE www.snowbridgeinc.com

with an 8-foot tail hung up at the 45. If I worked from the other end, I'd have to get 100 feet of liner to the 90 and then push it up that last 12 feet. Either way I looked at it, I didn't like the odds."

"I operate the company same as Dad did. I don't use just one tool for everything but find the correct product for each job."
Chris Tatro

The pipe also had to endure the water-glycol mix at temperatures up to 90 degrees at up to 50 psi. "I know there are quality CIPP products out there made to handle pressure, temperature and chemicals. But now you're talking about a sturdier, reinforced liner, making it even harder to negotiate the turns," Tatro says.

Opencut replacement had been ruled out from the beginning due to the newly completed renovation of the grounds, concrete infrastructure and two electric transformers next to the cooling tower. At that point, Tatro turned to the Picote Pipe Coating System, which is designed to renovate pipes 1 1/4 to 8 inches in diameter up to 60 feet in length. Its brush-cast, resin coating forms a new wear-resistant, noncorrosive pipe from the existing one.



The Picote system can be used on a wide range of pipe materials, from PVC to cast iron, concrete and clay. The coating layer builds at approximately 1/16 inch per pass, requiring two to four passes for a finished rehabilitation depending on desired thickness. The urethane coating dries to the touch within hours, reaching full hardness in seven days. The cured coating remains flexible enough to withstand shock and bending, and extends a pipe's service life up to 50 years.

Furthermore, unlike inversion-process liner systems, the brush-cast coating application isn't limited by abrupt angles. And since the brush-cast pipe coating can be used to line pipes subject to high pressure, high temperature and frequent exposure to some chemical substances, Tatro considered it an ideal choice for this job — that is, if it passed his own tests.

COATING WITH CONFIDENCE

"I was on a tight schedule, and I needed them to provide data on the resin. They had no problem helping me with that. The coating material is rated to 248 degrees, comfortably handling the 90 degree range and even with some pressure on it."

Tatro got the Picote coating pump and resin through HammerHead Trenchless Equipment, then studied how much material to apply and at what rate to move the

applicator brush to ensure a perfect coating. He even built a model of the system. “Practicing it in my shop, I can see what I’m doing. Then I don’t have to guess while doing it blind, basically, underground in the actual job.”

Allowing each pass to dry before brushing the next, he built the coat up in three layers. Then Tatro cut cross sections of the pipe to determine the uniformity of the coat’s build. He gave special attention to the 90-degree fittings, drilling holes at the back of the elbows to see if the brush-coat method made the resin skip or thin out in its tight radius. He checked the beginning and end of the pipe to make sure the bond created a sound, leak-proof joint for reconnection to the system.

He also studied the cross sections for annular separation. “Not all contractors understand this, but any thermal-set resin you install, whether it’s epoxy or poly, will ultimately shrink some. The annular space between host surface and resin might only be half a millimeter, but it varies from product to product. I need to know what the risk of separation and water getting between the lining and the host pipe is before I’ll use any product on a customer’s job.”

But Tatro liked what he saw. “It didn’t have a problem in the 90-degree fitting, which was impressive. The coat was uniform thickness throughout the pipe. It bonded well. I had the pace of application down. I was confident this was the legitimate solution.”

SITE PREPARATION

Tatro’s four-man crew started with a vacuum truck to suck the coolant out. Then they pressure jetted the line to remove the glycol’s slimy residue. Now they could get clear video to see what they were dealing with. “Seventy-five feet in we found one full circumferential crack with about a quarter-inch separation. Sand and gravel had infiltrated.”

The crew performed a CIPP point repair, allowing 24 hours of cure time before removing the packer. Next, the crew prepared the pipe surface. After thoroughly scuffing the PVC and point repair, the crew finished with a pig and vacuum truck to clear the pipe of PVC shavings.

To quality-check the point repair, Tatro set up a vacuum test. Snowbridge prefers to test pipelines with water, but in this case Tatro did not want to reintroduce water to the pipe prior to coating it. Usually Tatro holds 15 inches Hg of vacuum for 2 1/2 minutes to test a repair, but he held it for 30 before he stopped. “I wanted the pipe to be as sound as



▲ Leaking glycol lines below the recently renovated Windsor Town Hall were rehabilitated without disturbing the surrounding grounds or disrupting traffic.

possible prior to the coating.” Repairing the crack and prepping the pipe took three days of the total project time.


BRUSH-CASTING PROCESS

Tatro’s crew set up the coating system to make the first passes from the mechanical room end of the pipes. Although the system generally has not been used for passes longer than 60 feet, Tatro planned for an overlap of at least 4 feet in the middle. So for this job, each pass extended 73 feet into the pipes — lengths never before attempted in the U.S. Each 73-foot pass took about 1 1/2 hours to apply, including time to clean the equipment before moving to the next pipe.

Snowbridge allowed five hours’ drying time before applying resin from the cooling tower end, which Tatro said was to ensure the brush’s bristles did not bind at the overlap.

They allowed the coat to set overnight and repeated the application the next day, finishing up with a third and final coat the day after. The three application passes required 130 pounds of resin — all delivered through a 1/4-inch hose. In all, the crew spent seven days on site.

Final video inspection showed a smooth surface that transitioned cleanly past the point repair. In fact, Tatro said he wouldn’t have known it was repaired had he not done the work himself. “Then,” Tatro says, “I requested the customer wait seven days, which Picote says is time for the full cure. I just didn’t want to risk marring the coating.”

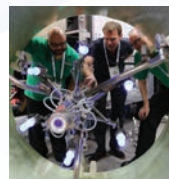
David French, the Windsor Public Works Department’s facilities manager overseeing the pipe renovation project, returned the system to service after 14 days, encountering no further issues with loss of pressure. After it had been running for four weeks, Tatro called to check on it. “Their mechanical contractor had been watching for symptoms of anything going wrong but said it was running great!” 



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Are Dashcams a Video Tattler or Insurance Tamer?

Windshield cameras capture view of other motorists, have the potential to uncover and correct your drivers' bad habits *By Ed Wodalski*

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Currently these discounts only apply to noncommercial vehicles, but that doesn't mean you and your business can't benefit from tracking driver habits.

MANY BENEFITS

You're probably already aware of the many GPS and dashcam devices available and might even have one in your truck. In addition to creating some amazing YouTube videos, the technology has the potential to reduce collisions, save lives, resolve litigation, improve fuel mileage, reduce maintenance and, yes, lower insurance costs.

Among the devices most recommended by insurance brokers is DriveCam by Lytx, as in analytics.

"It's a combination of what I call a GPS on steroids and a video camera," says Mark Herring, senior vice president for Heffernan Insurance Brokers in Portland, Oregon, who insures about 4,000 trucks. "There's a camera that faces forward so you can see what happens in front of the truck



▶ The split-screen camera captures the view in front of the truck and inside the cab. (Photos courtesy Lytx)



▶ The DriveCam from Lytx mounts to the windshield.

and one that shows what's happening to the driver. You can tell if he's texting, on the phone, eating a burger or dropped a cigarette."

While most recording devices provide a continuous video loop, DriveCam delivers 12-second segments — eight seconds before and four seconds after an event — much like instant replay used by sports teams.

"Usually the base-base, where it's just the video, will be about \$15 to \$20 per truck per month, and the Cadillac version, where they do all the work for you and provide a report, is going to be upwards of \$59 a month," says Herring, who believes every truck should have some type of a recording device.

▶ Most insurance companies will provide a credit if there is some type of monitoring system in the company vehicles.



FOR THE INDUSTRY?

"If you have one or two trucks and it's all family, you probably don't need it for your guys, but you still need it for the other guys on the road who claim you did something," he says. "I think it's the best risk-management tool that a business with more than 10 trucks can have."

Some contractors may say they would never exchange the privacy of their cab for an insurance discount. Others, such as Janelle Kick, co-owner of Purple Pumper in Hinckley, Minnesota, say they might consider such a device if it lowered their insurance cost.

"Possibly," she says. "I never really thought of it for our big trucks. I always thought of it for cars and more personal applications, so I guess I never even asked."

Steve Mular, vice president of family-owned Parkway Services in Ypsilanti, Michigan, says his company has GPS and backup cameras on all its trucks.

"We save a little," he says. "But it could also work against you in court if your driver was speeding."

Herring says most good insurance companies will provide a 5 percent credit if you have some type of monitoring system and up to 10 percent if you have DriveCam, but it's not something an underwriter is likely to offer — you need to ask.

A DVR RECORDER

The DriveCam program by Lytx consists of a camera that's attached to the windshield. It shows what's ahead of the vehicle and what's happening in the cab.

"It's kind of like a DVR recorder," says Greg Lund, director of corporate communications for Lytx. "It's always recording, but it doesn't save until there's what we call an event — a hard brake, a swerve. An example would be a driver going down the road and someone cuts in front and he has to brake really hard."

Data is uploaded via a modem to reviewers at Lytx who send clips of significant events along with a report back to the customer. Event data can be used to resolve litigation and help employees become better drivers, Lund says.

"We look at which of the drivers are exhibiting behaviors that need coaching, which drivers are doing great and those in the middle," he says. "What we're looking for is the root

cause of risky driving. We follow about 100 different behaviors, from using the cellphone to driving too fast, to not looking far enough ahead. We also have a lot of videos that show the driver doing some heroic things to avoid collisions."

Each behavior is assigned a value and drivers are ranked according to those needing the most coaching and their likelihood of being in an accident.

“What we're looking for is the root cause of risky driving. We follow about 100 different behaviors, from using the cellphone to driving too fast, to not looking far enough ahead. We also have a lot of videos that show the driver doing some heroic things to avoid collisions.”

Greg Lund

COSTS CAN BE OFFSET

The subscription service costs about \$50 per vehicle per month for most large fleets. Lytx also offers a less-expensive program for fleets with 10 or fewer vehicles called DC (DriveCam) Protect.

"Anybody that wants to lower their risk, anybody that wants to improve driving behavior among their fleet, those are the clients that come to us," Lund says. "Through better driving, we also feel you can save fuel costs by up to about 12 percent."

Lund says fleets that have the most success with the DriveCam program are those that use it in a positive manner.

"By that I mean they don't put the hammer down on a driver who might have a few behaviors that need to be fixed, but work with him to improve and then reward him when he does." 📺

Service Vans, Fleet Management

By Craig Mandli

Advertising



FreshLime Customer Retention Platform

The **FreshLime Customer Retention Platform** unifies existing customer and transaction data to automatically connect with customers that are most likely to buy

again soon. The program simplifies marketing so business owners can focus on providing excellent service. Why do millions of people continue to use Google to search for plumbers or HVAC services near them when they have probably used a service in the past? Why aren't they just calling the company they have used before back? A 2017 study found that for most (81 percent) it's because they can't remember the last service provider. The program helps change a customer's mindset from "I'll Google plumbers near me," to "I know a guy." 714/330-7161; www.freshlime.com.

GPS Tracking

US Fleet Tracking OBD-V3

The **OBD-V3** GPS tracker from **US Fleet Tracking** can be snapped into a vehicle's onboard diagnostic port to track location, speed and mileage from a desktop or mobile device. Keep fuel costs down by alerting drivers when vehicles idle for too long. The alerting feature lets users know when vehicles have entered or exited a specific location. Tie in live weather and traffic information to get a robust picture of what a team encounters on the streets. It helps users give realistic estimate times for a technician's arrival. 405/726-9900; www.usfleettracking.com.



Route Management Software

TomTom Telematics PRO 8275M

The **TomTom Telematics PRO 8275M** driver terminal is a customizable, all-in-one fleet management and navigation device geared toward the service and maintenance industry. Built to aid the driver and enhance workflow, the driver terminal has a built-in camera, integrated cellular connectivity and an open platform that can be customized with third-party apps to capture and integrate data from the field into back office systems. Improve process efficiency by streamlining communications, job status updates, materials available and more to enable real-time invoicing. It has a 7-inch screen and is ruggedized to survive in the field, fully customizable with platform control, built-in camera with flash, lifetime TomTom Traffic to always know the fastest routes, easy serviceability with remote device management, connection to WEBFLEET via TomTom Telematics LINK products (your vehicles connected to your business for efficient fleet management), and near-field communication (RFID) and cellular connectivity. 866/459-3499; www.tomtomtelematics.com.



Shelving

Hackney Dodge Promaster van shelving

Hackney's aluminum shelving line for Dodge ProMaster van models has standard kits for quick delivery and installation, but modifications can be requested to adapt as necessary. The shelving is lightweight with adjustable shelves for Hackney's storage trays or tools. Driver- and passenger-side kits are available separately or as one



package with top-shelf storage for ladders and pipe. Other packages provide open areas for bulky items, like hot-water heaters. 252/946-6521; www.hackneyservice.com.

Trailers



Aluma Trailers Aluma EDGE

Aluma EDGE trailers from **Aluma Trailers** include 78-inch-wide models in lengths of 10, 12 and 14 feet. Each comes standard with a 3,500-pound rubber torsion axle, 14-inch steel wheels, 800-pound swivel-tongue jack, aluminum tailgate and various customization options. 866/415-3285; www.alumaklm.com.

Vans/Van Accessories

Ranger Design Partskeeper

The **Partskeeper** from **Ranger Design** saves plumbers time and the hassle of carrying several boxes, as all small parts and pieces can be stored in one carry-along kit. Save time by filling it at the end of the day, and be ready for service calls the next day, with all most-used parts on hand. It is lightweight and easy to carry with its practical handle, providing the advantage of carrying several items without dropping them. It can be stored in a van individually, or stacked by four, and up to eight in a cabinet. 800/565-5321; www.rangerdesign.com.



comes equipped with hidden hinges, galvanized shelves, LED lighting, stainless steel and rotary-lock paddle latches, each van can extend worker efficiency. 800/458-2226; www.readingbody.com.

SpitzLift 3-foot fold-down crane

The **SpitzLift** 3-foot fold-down crane is made of lightweight aircraft-grade aluminum and weighs less than 40 pounds. It has a robust load capacity of 650 pounds, and can be installed in vans and enclosed service vehicles for both rear and side-door applications. Because the crane is lightweight, it can be transferred easily from one mounting system to another. This portability feature increases efficiency, versatility and multipurpose use. The unit is well fitted for enclosed service vehicles and vans because when not in use, it stores neatly out of the way so to not interfere with workflow or take up valuable cargo space. When ready to use, the ergonomic design allows for simple setup to the operational position. It helps increase workplace safety and efficiency as a premier lifting solution for equipment handling. 619/713-5061; www.spitzlift.com.



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LIXIL Americas names new CIO

Alex Alexandrou was named chief information officer for LIXIL Americas, home to the American Standard and GROHE bath and kitchen brands. In this position, he will be managing corporate-wide strategy and long-term planning for all information and related technologies.



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Reelcraft will join Madison Industries' safety and flow vertical, subject to regulatory approval. Customers will keep current sales representatives and source products through existing channels and points of contact. 

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Service Vans, Fleet Management

By Craig Mandli

Tracking program monitors location and fuel usage



Problem: Plumbing Medic in Gilbert, Arizona, needed to improve time management and accountability of their mobile workforce. Since their techs are spread out all over the Phoenix metropolitan area, they had no way to know what they were doing in between jobs. They also sought to eliminate fuel card fraud.

Solution: GPS Insight displays where technicians are and how long it will take them to get to the next job site, with access to their vehicles on easy-to-read maps with an estimated time of arrival feature. To raise employee accountability, GPS Insight established "odd-hours alerts" to notify management of unauthorized usage of company vehicles.

Result: Having the ability to locate any vehicle's location in real time has provided better visibility and peace of mind over equipment and parts in the field. "We were able to identify one of our technicians using a company vehicle to cross states lines for personal use," says Plumbing Medic dispatcher Tami Gurka. "We received an odd-hours alert in the middle of the night that one of our vehicles was moving in another state." It monitors fuel usage by integrating WEX fuel card data to monitor all fuel card purchases. It also makes dispatching simple by eliminating time that would have been spent on the phone trying to figure out technicians' current locations. "On average, I would make 150 calls per day and now I make virtually no calls because most communication is done through GPS Insight," says Gurka. 866/477-4321; www.gpsinsight.com.

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Product Spotlight

RapidView IBAK's GATOR offers surefire lateral detection

By Craig Mandli

Finding the exact location of laterals after a relining job is typically a thankless task. The relining company used to have to perform a camera inspection pre-lining, meticulously marking every lateral. Then, following the reline, an operator uses a remote-controlled reinstatement cutter to cut the liner at the lateral location to open the connection at each mark. Because it isn't exact, mistakes can happen. But a new product from RapidView IBAK is designed to take the guesswork out of lateral reinstatement.

The GATOR Automatic Lateral Detector is a sensor that mounts on the front armature of RapidView IBAK GATOR cutters and allows the user to locate lateral connections through the pipe liner before reinstatement. Using a small microwave emitter and easy-to-use software, it locates the lateral behind the liner and automatically marks the center of the lateral for reinstatement. According to Matt Sutton, RapidView IBAK's vice president of sales and marketing, the technology is a first for the relining industry.

"This unit will pinpoint exactly where each lateral meets the pipe," he says. "There is nothing else like this out there right now. We feel it's a game-changer for the industry."

The system can be operated in a completely automatic mode, finding the laterals, even if a pre-inspection was not completed prior to lining. The sensor allows rehabilitation companies to avoid costly and time-consuming mistakes when reinstating laterals.



"We haven't found an instance yet using it where it wasn't 100 percent accurate," says Sutton. "Even if the lateral meeting the relined pipe is clogged, this unit will find it."

RapidView IBAK developed the technology in partnership with a German university, and it's aimed at large relining companies and municipal sewer and commercial plumbing contractors. Sutton says that despite the perfect success rate of the sensor so far, it is quite affordable.

"We designed this to be a huge time-saver for companies, and it can actually pay for itself after only a few jobs," says Sutton. "We know that the market for a product like this is pretty niche, but those that do this type of work know how revolutionary a product like this can be." 800/656-4225; www.rapidview.com.

RIDGID Micro CA-150 and CA-350 inspection cameras

Micro CA-150 and CA-350 hand-held inspection cameras are made to work in tough environments for quick job site feedback and project implementation. The CA-150 has a 3.5-inch color display and the internal memory can save up to 20 images. The CA-350 comes standard with a 12-volt rechargeable lithium-ion battery, lasts up to eight hours and takes 45 minutes to recharge. Both cameras include a pistol-grip design, LED lights and large screens for viewing. 800/769-7743; www.ridgid.com.



Vista Research Group DrainHub multiport drain adapter

The DrainHub multiport drain adapter from Vista Research Group accepts up to eight drain connections in one hub. Available in two-, four- and eight-port models, its 1/2-inch threaded ports accept a variety of push-to-connect, compression and hose barb adapter fittings. The top and bottom hubs accommodate standard 1 1/2- or 2-inch pipe, or standard 1 1/2-inch trap adapters for use with 1 1/2- or 1 1/4-inch tubular waste lines. 419/281-3927; www.drainhub.com.



Watts all-in-one ball and relief valve

The Series LFBRVM1 all-in-one ball and relief valve from Watts is designed for use as a water heater shut-off that also provides protection against excess water pressure caused by thermal expansion. It features nine end connection options and can be installed in any orientation. The design incorporates tighter pressure-release tolerances for greater accuracy in compliance with the latest IAPMO and CSA standards. The valve also includes a forged body construction, blowout-proof stem and a white handle for lead-free identification. 978/688-1811; www.watts.com.



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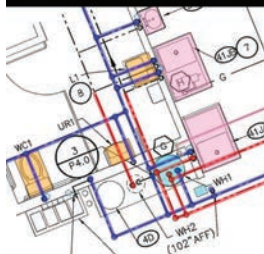
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Franklin Electric pump selector software

FE Select from Franklin Electric is an online tool that assists with product selection, configuration and quoting for water systems. It goes through the process from start to finish, requiring basic application data such as flow and total dynamic head demands. Other features include 24/7 accessibility, a quick-price option for selecting submersible motors, drives and controls, and simple software navigation for quoting complete pump packages. 260/824-2900; www.franklinwater.com.

General Pipe Cleaners Sewerooter T-3



The lightweight Sewerooter T-3 from General Pipe Cleaners clears clogs from 2- to 4-inch-diameter lines up to 100 feet long. Optimized for inside work, it features a fold-down handle and a tough, reinforced tubular frame on 10-inch wheels for easy transport to and from the job. The power cable feed provides maximum feed control of 1/2- or 3/8-inch cable. The accompanying guide tube and optional extensions prevent cable whipping and kinking. Powered by a heavy-duty 1/3 hp capacitor-type motor with thermal overload protection, the T-3 has a powder-coated metal drum with a capacity of 100 feet of 1/2-inch Flexicore cable. 800/245-6200; www.drainbrain.com. **P**

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