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Inside



4 DEALER PROFILE

Caring for Customers

Atlantic Machinery makes employees and customers feel like they're part of the family. **By Paul Nicolaus**

7 ASK THE EXPERT

Fans vs. Blowers

Knowing the differences between fan and positive displacement machines will help you make the right purchase for your business. **By Mike Selby**

8 COVER STORY / UTILITY PROFILE

Sanitary Transformation

Plainfield ramps up maintenance on its aging infrastructure and drastically reduces sewer overflows. **By Dan Heim**

12 DEALER PROFILE

Whatever It Takes

Best Equipment provides the training and mobile service necessary to make sure customers stay on the road and ready for any job. **By Kyle Rogers**

15 ASK THE EXPERT

A New System

Managing engine speed improves vacuum efficiency and reduces wear on truck components. **By Javier Resto**

16 DEALER PROFILE

Rising to the Occasion

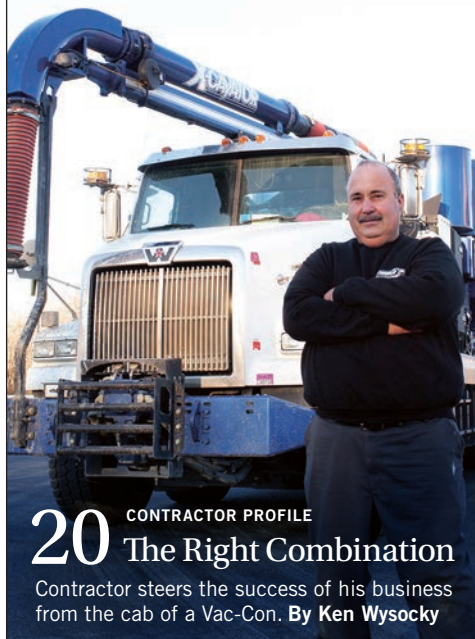
MME does whatever it takes to meet customer needs and build long-term relationships. **By Paul Nicolaus**

ASK THE EXPERT

19 Let The Pipe Be Your Guide

Choosing the right nozzle requires thorough understanding of how it will be used.

By Mike Selby



20 CONTRACTOR PROFILE

The Right Combination

Contractor steers the success of his business from the cab of a Vac-Con. **By Ken Wysocky**

DEALER PROFILE

24 Finding New Ways to Serve

Southern Sewer continually looks for opportunities to improve the customer experience. **By Kyle Rogers**

More than Trucks



IN 1986, VAC-CON WAS ESTABLISHED with the goal of building the world's most reliable sewer cleaning trucks. Since then we've handcrafted some 7,500 units and shipped them all over the globe.

Our Green Cove Springs, Florida, facility is home to more than 300 men and women who aren't only employees, they're owners too. Vac-Con is 100 percent employee-owned, which translates into a devotion to our products and customers that extends well beyond a paycheck. Each and every truck we manufacture becomes one of the family, and when you purchase one, you become a member of our family, too.

Thirty years ago it would have been impossible to predict how much this family would grow. Today our combination units, hydroexcavators and industrial vacuum trucks operate worldwide — supported by devoted dealers and service providers. We wanted to share some of these success stories, so welcome to Vac-Con IVT.

And don't worry if you haven't joined the Vac-Con family yet — there's always room at the table.

Darrell LeSage
President
Vac-Con, Inc.



IVT is a specialty publication produced by COLE Publishing, Inc. on behalf of Vac-Con, Inc. and is distributed to nearly 7,000 private, industrial and municipal vacuum truck owners throughout North America. This publication is dedicated to showcasing Vac-Con's outstanding products and industry leading customer service through its extensive network of authorized dealers. For more information on Vac-Con or feedback on this publication, our products, employees or dealers, please contact us at (904) 493-4969, or online at vac-con.com.

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CARING FOR CUSTOMERS

Atlantic Machinery makes employees and customers feel like they're part of the family

BY PAUL NICOLAUS | PHOTOS BY MARLEEN VAN DEN NESTE

Atlantic Machinery President Trevor Gardner says the first thing he thinks of with a family business is caring. It shows. When one of Atlantic's customers took on an unusually tough job in Baltimore, Gardner's team had their back.

The customer was dealing with the aftermath of another contractor that put structural cables in the ground to support a wall and accidentally pierced a sewer line in the process. Gardner traveled to the site with his customer on three separate nights to evaluate the situation and help devise a solution. Because the street had to be shut down, work couldn't begin until 10 p.m. and had to be through by 5 a.m.

After trying everything they could come up with in terms of conventional cutting devices, Atlantic Machinery went back to the drawing board. "We hung in there with them and we were able to come up with a device here in our shop to go down through that pipe and cut the cables off without damaging it," Gardner says. "Nobody else would touch this job, but it was something we enjoyed, and you would only do it because you care about the guy and his company."



It's the type of caring that also seems to explain the longevity found both within the company and its customer relationships. The Atlantic staff includes 12 employees who've been with the company for at least 10 years, four of whom have served for more than 20 years.

"We have treated this as a family for 35 years," Gardner says. "Not only is true family involved — my son and I — but we treat the rest of the people who work here as part of the family."

With this type of dedicated staff comes the opportunity to develop meaningful, long-standing customer relationships as well, which is a point of pride. Atlantic Machinery sold a Vac-

Atlantic Machinery Vice President Trevor "T" Gardner (left) and his dad, President Trevor Gardner Jr., at the company's headquarters in Silver Spring, Maryland.

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The Gardners and their team at Atlantic Machinery provide comprehensive service to Vac-Con owners — in the office, on the phone and on the job site.

“WE ALWAYS TRY TO TREAT OUR CUSTOMERS JUST AS WE WOULD WANT TO BE TREATED IF WE WERE IN THEIR SHOES, AND WE GO TO GREAT PAINS TO MAKE SURE THAT EACH VAC-CON IS EXACTLY RIGHT FOR THAT CUSTOMER.”

Trevor Gardner



Con to the City of Annapolis in their first year as a dealer in 1988, for example, and has sold them a number of trucks over the years, including one they just recently delivered. They’ve been doing business with Newport News, Virginia, for over 25 years and with several contractors for more than 20 years.

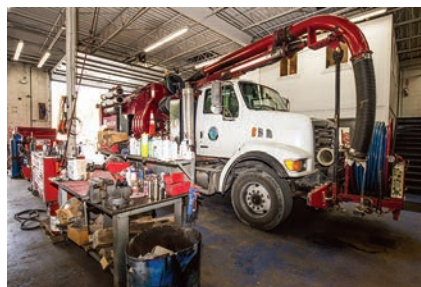


“We think that you have to know the customers well, and we try to build relationships,” Gardner says. “Specifically with Vac-Con, we’re trying to guide our customers to help them select and procure the right equipment for the job.”

To add a personal touch, Atlantic Machinery brings both potential and existing customers to the Vac-Con plant to see how the trucks are built. “We find that when you get a customer out of their comfort zone and typical workplace you oftentimes get to know them a lot better,” Gardner says. “We’ve found that taking them to Vac-Con is pretty much the perfect way to do that.”

In cases where customers aren’t quite sure what it will take to do the job, Atlantic Machinery staff members will go out on site and make recommendations based on what they observe.

“We want to make sure they have the right equipment on the Vac-Con so they can do their job with ease. It’s just tailoring what Vac-Con has to offer to the particular customer’s requirements,” Gardner says. “We always try to treat our customers just as we would want to be treated if we were in their shoes, and we go to great pains to make sure that each Vac-Con is exactly right for that customer.”



FANS vs. BLOWERS

Knowing the differences between fan and positive displacement machines will help you make the right purchase for your business

Customers in today's combination sewer cleaner market have two choices with which to generate vacuum: centrifugal fan or positive displacement blower.

This column is not intended to sway, discount or condemn either method, but rather dispel the myths long associated with both vacuum methods and components.

Neither fans nor PDs were originally intended for the sewer cleaner market, but both were designed to convey. To better understand how they ended up in this market, you must first learn a little history.

POSITIVE DISPLACEMENT

The positive displacement machine was invented around 1860 as a "more efficient" water wheel. Made of wood, it was put into the millstream and as water flowed through it, the rotors turned and power was generated from the output shaft. Over time, wood components swelled and ruined the clearances, causing the mill to stop. The unit would then have to be taken out of service and dried out, shrinking the components to their original dimensions. As soon as the rotors would turn, a power source was connected to the output shaft to speed up the drying process. Someone noticed that this arrangement could move a significant quantity of air, and the use of air blowers began.

Cupola blowers became the first application for this newfound technology. Each rotation of the rotors represented a specific amount of air being forced into the furnace, thus allowing the furnace master to develop the theory that the more rpm the blower turned, the hotter the fire became. The positive displacement machine was originally intended for pressure applications, which led to the original nickname, "blower." Only in the last 30 years has the machine been adapted to provide negative pressure in truck-mounted vacuum applications.

The PD machine is constructed with two lobes that rotate in a cast steel housing in opposite directions of each other. The design of the PD is such that each lobe traps a specified

amount of air — depending on the size of the PD — for each rotation. PD machines rely on close tolerances — as small as .009 of an inch — to trap the air. Unless the PD is designed to run fully blanked off, relief valves are necessary to protect the unit from building too much vacuum, which creates too much heat and subsequently causes the internal components to expand and collide with each other. Generally, the input speed of a PD blower is approximately 2,200 rpm, which produces 16 to 18 inches Hg while creating 2,400 to 4,200 cfm.

One common misconception of PDs is that no matter how deep, no matter how far, a PD can "pump" the water or material. This is untrue. A PD machine has a finite lifting capability; once a PD reaches its lift capacity, an operator must fluidize (add air) to continue conveying material to the holding vessel. PD machines work well in liquids, sludge or thick materials, and vacuuming over a long distance horizontally.

The centrifugal fan uses rotating "fan" blades to compress air in compound stages. This device in its most powerful configurations is capable of lifting a column of water 200 inches, the equivalent of approximately 14 inches Hg (vacuum). It is fully capable of vacuuming material underwater up to its rated lift performance, either with or without air induction. The closest tolerance in a fan is roughly 1/4 of an inch. The air is drawn to the inlet of the fan blade, and as the blade spins, it moves and compresses the air.


One common misconception of the centrifugal fan is that it cannot vacuum underwater. That is absolutely untrue. A fan can vacuum to its rated lifting performance whether it's underwater or not. If a fan is rated at 200 inches, it can lift an 8-inch column of water to 16.67 feet. If the level of the water is less than 16.67 feet from the top of the boom, the fan can vacuum under the level of the water with no attachments. If the water level is greater than 16.67 feet, a fluidizing nozzle is used to add air into the air stream. Centrifugal fans work well in moving liquids and solids at over 100 feet vertically or horizontally.

The fan vs. positive displacement argument rivals the Ford vs. Chevy debate. Books have been written regarding the benefits of fan over PD and vice versa. Each of these vacuum generators has applications where it outperforms the other.

CENTRIFUGAL FAN

The centrifugal fan was designed in or around the 1960s for conveying grain. The conveyor's original design had a centrifugal fan powered by a diesel engine, piping in which the material was conveyed, a cyclone, and an airlock. The technology was aimed at off-loading grain from ocean-going cargo ships more efficiently than the shovel and bucket method. This machine could vacuum material from the berths of a cargo ship and lift it into a cyclone. Grain would drop out of the cyclone via an airlock, and the exhaust or pressure side of the blower would then push the material to the storage vessel onshore. The unloading process, which previously took several days, could now be completed in hours.

This timeless topic has been and will continue to be the single most argued point in the combination machine industry. The fan vs. positive displacement argument rivals the Ford vs. Chevy debate. Books have been written regarding the benefits of fan over PD and vice versa. Each of these vacuum generators has applications where it outperforms the other.

The single most important thing to consider is the application for which the machine is going to be used the most. If you are still unsure of which machine to purchase, be sure to contact your local sales engineer who is trained in the operation of both of these machines. 

Mike Selby is Vac-Con's national service manager. Contact Mike at mikes@vac-con.com.

SANITARY Transfer



The Plainfield Municipal Utilities Authority's Vac-Con V390LHA0 is the newest addition to its jet/vac fleet.

mation

Plainfield ramps up maintenance on its aging infrastructure and drastically reduces sewer overflows

by Dan Heim

PHOTOS BY JOHN O'BOYLE

The Plainfield (New Jersey) Municipal Utilities Authority serves one of the most densely populated areas in the U.S. They have 51,000 customers packed into just 6 square miles. It's the classic urban jungle.

That job is further complicated by the dense infrastructure. In addition to their own pipes, there's a labyrinth of other utilities underground — most of it covered by concrete. And 95 percent of PMUA's pipes are vitrified clay, 80 to 100 years old.

"It was one of the first sanitary systems installed in New Jersey, so it keeps us busy," says Stephen Dessino, assistant superintendent of the PMUA Sewer Department. "We're out there every day doing videos of the system, cleaning or repairing as needed."

Dessino has been in the business for 34 years, starting in the field and working his way up to management. Vac-Con equipment was what he trained on and, as a manager, inherited. Those trucks are "mission critical," he says, and how he extracts the greatest value from his fleet is a story worth telling.

THE CHALLENGES

"We're very proactive in our approach," Dessino says. "When we first started, the system was in terrible shape. But now we have very few backups, and overtime is almost zero. A lot of that is from how we use our Vac-Cons. They've been real workhorses."

PMUA has 110 miles of pipe, ranging from 8 to 24 inches in diameter. Some of that pipe has been replaced with PVC using

PLAINFIELD (NEW JERSEY) MUNICIPAL UTILITIES AUTHORITY (PMUA)

Service area: 6 square miles

Population: 51,000

Population density: 8,493 per square mile

Infrastructure: 110 miles of sanitary sewer, 80 to 100 years old, mostly vitrified clay

Annual budget: \$10 million operational, \$50,000 capital

Employees: 130 (field plus office)

Website: www.pmua.info



The Plainfield Municipal Utilities Authority maintenance team.



Right: Plainfield Municipal Utilities Authority sewer technician Steve Bouie removes a manhole lid to clean the line while Joseph Mistretta waits to move the Vac-Con V390LHA0 into place.

Below: Sewer technicians Joseph Mistretta (left) and Steve Bouie set up to clean a sewer main.



Above: Joseph Mistretta carries an extension tube up to the boom at the front of the truck.



Other buried infrastructure can make that task difficult if a pipe needs to be dug up. Much of the urban area is heavily developed. There's not a lot of open space, and excavating by conventional means can be dangerous.

"When we do need to excavate, wet or dry, those Vac-Cons are just the ticket," Dessino says. "Our trucks are rigged for wet or dry excavation, and we need to use hydro to avoid damaging all the other utilities down there."

Hot water capabilities also help slice through frozen ground in winter.

DYNAMIC DUO

The PMUA's Vac-Cons are both similar in setup. One is a model V311LAE0, with an 11-cubic-yard debris tank and 1,200-gallon water capacity. The other is a V390LHA0

Fernco couplings to mate it to the clay pipe, and some longer runs have been lined, but those sections comprise only a fraction of the system.

Constant, ongoing maintenance is a big reason the rest of the system is still in good condition. "Both of our trucks are out every day doing preventive maintenance," Dessino says. "I just totaled up the footage for our year-end report. We jetted and vacuumed 1.42 million feet, which comes out to 26.87 miles of sewer line that we cleaned.

"Our day starts at 7 a.m. and ends at 3:30 p.m.," he adds. "The two Vac-Cons go out every day. One truck is on the east end of the city and the other is on the west. They jet and vacuum all day long every day."

Inspection is another important part of the program, and a key to staying ahead of problems. "We're on about a 2 1/2-year inspection schedule for those pipes," Dessino says. "We have our crews out there at least five days a week. It's an ongoing process. When we find something that needs to be fixed, we'll get right on it."

with a 9-cubic-yard debris tank and the same water capacity. Both feature three-stage fans and the Omnibus operating system.

Dessino says he's stayed with Vac-Con for several compelling reasons:

- Before joining PMUA, he trained on trucks from several manufacturers and prefers Vac-Cons over the competition.
- Over his 34 years using Vac-Con, they've performed reliably.
- There's a Vac-Con dealer conveniently nearby in New Jersey.
- When a breakdown occurs, he can get 24- to 48-hour turn-around on repairs.
- If they need a loaner in the meantime, Vac-Con provides it at no charge.
- When he buys a new Vac-Con, on-site training is part of the package.
- He gets top dollar on trade-ins because his old trucks are so well maintained.

The utility needed to replace one of its trucks back in 2012

Sewer technicians Steve Bouie (left) and Joseph Mistretta set up their Vac-Con and feed the jetter hose down the manhole to begin cleaning a sewer line.



and the other in 2014. Dessino is required to go through the usual open-bidding process, so several companies were allowed to make their pitch. He bought Vac-Con both times, \$230,000 for the first, and around \$300,000 for their second larger tandem-axle model.

"I have to listen to the sales reps, but honestly, when I look at the price, the warranty, the service and the capabilities, I haven't found anything yet that tops the Vac-Con product," Dessino says. "Ours are out there eight hours a day, five days a week, and they just keep running and hold up well."

For front-end engine work and general maintenance, PMUA handles it in-house. For any back-end vac issues they go to the dealer. With a regular maintenance schedule, Dessino has kept his Vac-Cons running with very few problems.

RECOVERY WORK

While neither of the PMUA's divisions is responsible for the city's stormwater system, its jet/vac trucks are sometimes called in to provide assistance.

"On occasion, we've needed to assist the city with stormwater cleanup, especially after big weather events like Hurricane Sandy back in October 2012," Dessino says.

Hurricane Sandy inundated much of the East Coast with a "perfect storm" surge. Power outages, emergency response

"I have to listen to the sales reps, but honestly, when I look at the price, the warranty, the service and the capabilities, I haven't found anything yet that tops the Vac-Con product."

STEPHEN DESSINO

and telecommunications all suffered from intermittent service. Plainfield was one of the areas hit hard.

"That was a pretty bad storm," Dessino recalls. "We had a lot of water in the city and had to go clean up the usual trouble spots. Much of that was under the purview of the DPW, but we lend a hand wherever we can in an emergency."

They had some stormwater drainage pipes that were badly clogged by debris that infiltrated following the 13-foot storm surge. DPW called on PMUA to assist with the removal of that debris, and PMUA used their Vac-Cons for the task.

"People are amazed at just how strong the suction is on these Vac-Cons and the kind of stuff they can pull out of the pipes," Dessino says. "We helped a lot on the recovery effort. PMUA has a great working relationship with other city departments, so it's always a team effort. Sandy was a tough one, but we did recover." 📷

The Best Equipment team is led by owners Mike and Maria Dahlmann (center) and their family (from left) Lauren Dahlmann and Jenna and Adam Bowen.

WHATEVER IT TAKES

Best Equipment provides the training and mobile service necessary to make sure customers stay on the road and ready for any job

BY **KYLE ROGERS** | PHOTOS BY **CHRIS BERGIN**

It's difficult for Mike Dahlmann to pinpoint the best example of his company's dedication to customer service. Going above and beyond is simply the standard for the owner of Indianapolis-based Best Equipment.

"We've worked weekends, evenings and holidays. We've done all sorts of extraordinary things over the years to make sure customers are satisfied," Dahlmann says. "We treat all trucks that are down the same way, with a high sense of urgency. It's just an attitude."

With a company history dating back to 1917, that attitude has developed over many years. Dahlmann has been involved with Best Equipment since the early 1970s and along with his wife, Maria, formally acquired the business from his father in 1998. Vac-Con has been among the company's equipment offerings since 1989.



A SOLID RELATIONSHIP

Those who purchase a Vac-Con truck through Best Equipment find themselves in a relationship that extends far beyond the sale, Dahlmann says.

"We feel that superior service is a differentiator between ourselves and the competition," he says. "We invest a lot in our service."

It starts with a thorough inspection of the equipment prior

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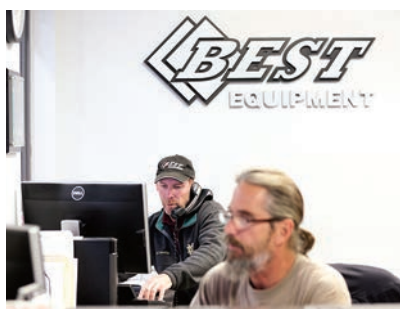
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“WE FEEL THAT SUPERIOR SERVICE IS A DIFFERENTIATOR BETWEEN OURSELVES AND THE COMPETITION. WE INVEST A LOT IN OUR SERVICE.”

Mike Dahlmann

to delivery and extensive training once the truck is in the hands of the customer. Training opportunities for customers don’t end with that initial delivery. Approximately every other year, Best Equipment offers a service school at both its Indianapolis and Cleveland facilities. The service schools cover maintenance, troubleshooting and any new features on the machines.

“We like to keep in touch with our customers and make sure they’re fully comfortable in maintaining their machines,” Dahlmann says.

Best Equipment will also go to customers’ sites for training sessions when requested. “Some customers, when there’s turnover among their operators, they’ll ask us to do a training at their site,” Dahlmann says. “We’re always on call for that, whenever they ask for it. Sometimes someone needs a refresher on the equipment and we’ll do that at no charge.”

SERVICING THE TRUCKS

When a truck does break down, Best Equipment tries to make sure a customer’s downtime is minimized. Part of that is maintaining a healthy inventory of Vac-Con parts.

“There are a lot of different ways to configure a Vac-Con, so we keep a lot of parts on hand,” Dahlmann says. “We have

Mike Dahlmann (above) acquired Best Equipment from his father 18 years ago. The company has been a Vac-Con dealer since 1989.

hundreds of thousands of dollars worth of Vac-Con parts on the shelf.”

When a truck requires service, there are Best Equipment’s Indianapolis and Cleveland facilities, as well as a road service crew that can travel directly to customers and get a truck up and running quickly. Four service techs are dedicated solely to road service and are able to assist customers located in Indiana, Ohio or Kentucky.

“It’s basically a service department on wheels,” Dahlmann says of the \$200,000 Kenworths the road service techs are equipped with. “They have a welder, an air compressor, a torch — everything you need to make repairs on the road. We’ve spent a lot of money to make sure our service techs have the proper equipment. We can provide service very quickly on the road.”

Dahlmann says Best Equipment’s customer service approach is also about building a relationship that extends well past a single truck purchase.

“We do whatever it takes to make sure they have a great Best Equipment and Vac-Con experience from the cradle to the grave,” he says. “We don’t want to just sell a truck to a customer and that be the end of it. We want to do everything we can to keep that customer. We want to be their choice again in seven to 10 years when they’re looking to buy another truck.”



A NEW SYSTEM

Managing engine speed improves vacuum efficiency and reduces wear on truck components

In early 2014, we started developing a new vacuum management system for our trucks. By that summer, an experimental prototype was ready and now approximately 80 Vac-Con trucks are out in the field utilizing the system.

We've coined it a vacuum "management" system rather than simply a control system, because that's what it does: It manages the operating speed of the truck engine alongside the hydrostatic system running the vacuum source so the truck as a whole can run more efficiently.

Under our vacuum management system, the truck engine will automatically run at the speed needed to produce enough horsepower for the vacuum to operate at the power level the customer has selected. We've made it simple. All the operator has to do is flip the "on" switch and select the proper vacuum speed: low, medium or high. From there, the electronic control module sends signals to the engine directing it to go to a specific speed setting based on the selected vacuum power level.

The benefits for operators go well beyond simply warding off a component failure. Because the system controls the rate of acceleration of both the truck engine and the power takeoff, there is less overall wear and tear on

each component. The engine reaches speed first, and then the blower or fan starts to accelerate, so there is a smooth transition of power without excessive loads on the engine before it's able to get up to speed.

Another advantage is better fuel consumption. Since the engine only runs at the minimum speed required to operate the vacuum system, operators aren't running at a higher-than-necessary rpm and wasting fuel. It

continues to develop the software so more system failures can be easily detected when they arise.


Along with the system, we've created a service tool that is initially used to program the system to match the exact specs of the truck. It can then be connected to the diagnostic port on the truck to identify exactly what an error code may mean. With the tool, the operating parameters of the truck can also be viewed in real time while it is running, revealing information like engine speed and the status of different switches and sensors.

The new management system is currently suited for Freightliner trucks with Cummins engines, but we're working on making the nec-

It's the solution to preventing driveline failures that we were looking for, but the benefits for operators go well beyond simply warding off a component failure.

will depend if vacuum is being generated via a positive displacement blower or a fan, but the three speed settings allow for an rpm range of 1,200 to 1,800. We took input from Vac-Con operators and employees to determine the best combination of speed settings that would cover all the work the machines perform.

The vacuum management system also provides improved troubleshooting capabilities. At the moment, there are seven different error codes that can pop up and point more precisely to the source of a problem, and we are con-

tinuing to develop the software so more system failures can be easily detected when they arise. Each one requires a slightly different setup for the controls to properly communicate with the engine, but the end result we're shooting for is the same: simple controls that allow operators to run their truck engines and vacuum systems at optimal efficiency. 

Javier Resto is a research and development engineer at Vac-Con. Contact Javier at jresto@vac-con.com

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Municipal Maintenance Equipment owners Helen and Frank Wheeler III share a common focus with their staff: customer satisfaction. The company's 29 employees serve customers from four facilities in California.

RISING TO THE OCCASION

MME does whatever it takes to meet customer needs and build long-term relationships

BY PAUL NICOLAUS | PHOTOS BY LEZLIE STERLING

Frank Wheeler believes business should be fun. The vice president and general manager of Municipal Maintenance Equipment also knows it's only fun when he and his team are helping people and doing good things.

Sacramento, California-based MME, a family-owned and operated company, has been representing Vac-Con since 1992. "We only represent the best-quality products in the marketplace," Wheeler says. "The market changes, the requirements change, the mandates change, and we try to stay ahead of that by allying ourselves with manufacturers that are interested in being proactive and not reactive to the market."

He points out that strict air, water and insurance regulations in California can cause challenges at times, but Vac-Con has come to the table and provided MME with products that allow customers to do more with less.

Case in point? Vac-Con's combination machine comes equipped with a twin engine package. Using the auxiliary engine as the primary source of power during the operation allows



the chassis engine to remain idle while flushing, which reduces fuel usage and the overall carbon footprint.

BUILDING A TEAM

What first began as one location and a team of four has since grown into four California locations and 29 employees total, and all MME staff share a common focus: "Customer satisfaction is our goal."

Part of the secret to success is finding ways to add a personal touch whenever possible. "We try to have a friendly face when they call on the phone," Wheeler explains. "We also try to make

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The sale is only the beginning of a customer relationship, and the service team at Municipal Maintenance Equipment does whatever it can to support its customers in the field.

“WHEN SOMEONE MAKES THE DECISION TO INVEST IN A PIECE OF EQUIPMENT THAT’S GOING TO LAST 10 OR 15 YEARS, THEY HAVE TO KNOW THAT DECISION IS GOING TO BE BACKED BY FUTURE SERVICE AND SUPPORT.”

Frank Wheeler

sure that our communication line is wide open so people have the access and ability to reach those they need to reach.”

Regardless of how well equipment is maintained, repair needs and other issues do come up, Wheeler points out. When customers are in need of assistance, MME is ready to help them get out of the ditch, so to speak. “A friend of mine says, ‘Let’s get the ox out of the ditch and then figure out how to get the mud off of him later,’” Wheeler says.

“The bigger picture is, let’s get the truck running, let’s get it operational, and then we’ll settle what we need to settle after the fact because the truck needs to be in the market doing its job,” he adds. “Otherwise nobody’s happy.”

ISING TO THE OCCASION

When customers are confronted with emergencies, MME rises to the occasion. In one case, the company dispatched three trucks to help a public utility that was scrambling to tackle the



turmoil of a main break. Those machines stayed on the job for three days without charge. “Obviously they were very thankful,” Wheeler says.

MME strives to develop relationships with customers based on trust and support that extends beyond just an initial sale. “In my opinion, our business is a partnership,” Wheeler says. “When someone makes the decision to invest in a piece of equipment that’s going to last 10 or 15 years, they have to know that decision is going to be backed by future service and support.”

The first sale is the easy one in Wheeler’s opinion. “The second, third, fourth and fifth sales to the same customer are the ones that show you’ve supported and taken care of those customers, and I’m proud to say we have customers that have been doing business with us for over 20 years.”

LET THE PIPE BE YOUR GUIDE

Choosing the right nozzle requires thorough understanding of how it will be used

Small parts on big machines can occasionally become an afterthought, but if you haven't looked good and hard at the nozzle selection for your combination sewer cleaning operation, you probably ought to.

Pressure and flow are critical components of your entire process, and if you can cut down on flow it gives you added productivity — allowing you to use the truck as it's designed to work.

We all know that pressure knocks material off the side of the pipe and the flow conveys that material, so the most important considerations when choosing a nozzle are material, flow and pipe size. First, ask yourself what type of material you're dealing with. Is it a sandy or greasy substance, or is it a dense material like concrete or grout? That's your starting point.

The more material you have in the pipe, the greater the chances for blockage. Do you

have flow? Is it blocked? When you determine the answers to these questions you can then decide whether to use just rearward jets and a maintenance type of nozzle or something more aggressive with forward-facing jets, or even a flail (rotator) nozzle. In some cases, you may even need to up the ante and use chain flails or saws that can grind through deposits.

The other main consideration is the size of the pipe you're dealing with. In smaller pipe, especially in municipal areas where the majority of the pipe is 8 to 12 inches in diameter, flow really isn't doing much. You're using the high pressure in order to break the material off the side of the pipe and convey it back to the manhole where you can vacuum it up.

Let's say you have 1,000 gallons of freshwater capacity that you can use inside an 8-inch pipe. If you dump 80 gpm into it, you're going

When you start getting into larger diameters, you still use pressure to remove the material off the walls of the pipe, but much like a river, if you don't have enough flow you're going to have sediment that settles. If you're going to use a 30 or 50 gpm system in a pipe that's 56 inches in diameter, you might as well use a garden hose — it's just not going to convey the material.

At that point it is important to have higher flows of anywhere from about 50 to 120 gpm so the material removed from the pipe can be sent back to the manhole and physically removed. In other words, you have to make sure the nozzle is properly sized so you can both effectively clean the pipe and remove the material from the infrastructure.

Keep in mind that there's no shortage of nozzle manufacturers out there, and most are examining the dynamics of how the water is routed inside these nozzles. In years past, the nozzle was just a throwaway part. Now, they can run all the way up into tens of thousands of dollars and many come backed by extended warranties.


Some use percussion that utilizes the water flow as a propellant or driving force almost like

We all know that pressure knocks material off the side of the pipe and the flow conveys that material, so the most important considerations when choosing a nozzle are material, flow and pipe size.



to clean it but you're limited to only about 12.5 minutes of run-time. Now let's say you can do the same thing by upping the pressure an additional 1,000 psi and dropping the flow to either 30 or 50 gpm. You've taken that water capacity and roughly tripled the amount of time you can spend cleaning the pipe, maximizing your linear footage along the way.

the thrust of a rocket. Others have cameras attached that help in areas that are difficult to troubleshoot. Multipurpose nozzles — a spinner style that can maintain a sewer line, cut through blockages and boost flow — are continuing to grow in popularity.

The innovation keeps on coming because the bottom line is that it's much less expensive to clean and maintain infrastructure than it is to replace it. 

Mike Selby is Vac-Con's national service manager. Contact Mike at mikes@vac-con.com.

Contractor steers the success of his business from the cab of a Vac-Con

by Ken Wysocky

PHOTOS BY CHET GORDON

THE Right Combination

As Tony Lasaponara was establishing his pipeline and industrial cleaning business, TAM Enterprises in Goshen, New York, he was also busy building a reputation for reliability — a critical attribute for handling emergency jobs where every minute counts.

And while the scope of the company's service offerings has expanded dramatically over the years, one thing has remained constant: Lasaponara's reliance on equipment manufactured by Vac-Con.

"We've grown together," says Lasaponara, a former electrician who established TAM Enterprises in 1994 with nothing more than a service van and a small drain cleaning machine. "Vac-Con was starting out right around when I was starting out. And I would have to say it's been a very good, productive relationship."

Within six months after starting TAM Enterprises, Lasaponara bought his first jet/vac truck. He decided to make the investment in larger, more productive equipment when he saw an opportunity to expand on his existing core service, unclogging lateral sewer lines, by getting into cleaning municipal sewer and stormwater lines.

TAM ENTERPRISES INC. Goshen, New York

Owner: Tony Lasaponara

Founded: 1994

Employees: 39

Services: Pipeline inspections, cleaning and rehabilitation, hydroexcavating, industrial cleaning

Service area: 100-mile radius around Goshen

Website: www.tamentinc.com



"There wasn't much competition at the time. Jet trucks were relatively new to the industry," he explains. "Everybody else was still using rodding machines, and if the rodder didn't work, they just dug up the pipe and replaced it. But the vacuum trucks changed all that. Being the first guy on the block gave me an edge, and the ability to tackle some big jobs early on earned me referrals for even more jobs."

The used jet/vac truck provided 10 more years of productive service — and made Lasaponara a big proponent of the equipment. Today, TAM Enterprises owns six industrial trucks, all made by Vac-Con.

EQUIPPED FOR DISASTER

Nothing tests a contractor like an emergency situation. TAM has plenty of experience in that regard, and thanks to the company's battle-tested fleet, Lasaponara doesn't flinch when he gets an emergency call.

Take the time about 100 feet of 54-inch-diameter combination storm/sanitary sewer — a trunk line to a wastewater treatment plant — collapsed in downtown Newburgh, New York. When the brick-lined main collapsed, it began discharging approximately 10,000 gallons of wastewater per minute, Lasaponara says.

Debris from the cave-in got pushed downstream, and the rush of wastewater was so powerful that it eroded the ground under the pipe to a depth of about 30 feet. "We had six Vac-Con vac trucks on the job, working around the clock for about 30 hours to clean debris from about 3,000 feet of pipe," Lasaponara explains. "The amount of debris we took out of that pipe was unbelievable — probably about 10 tons in all. We also had to fill in the void. And all the while, those Vac-Cons never stopped running."

Then there was the unusually cold winter of 2014-15, when constant water main breaks had TAM crews



tion

TAM Enterprises President Tony Lasaponara stands with the company's newest Vac-Con hydroexcavator in Goshen, New York.

hustling all winter to keep up with demand. “We ran around the clock, seven days a week, for three months,” Lasaponara recalls. “Our guys were averaging 110 hours a week, and we literally ran those trucks around the clock. Sometimes it was 20 degrees below zero, so we had to keep the trucks running to keep the water circulating so it wouldn’t freeze up. But they were up to the task.”

PRODUCTIVITY MATTERS

Hydroexcavation is an important part of TAM’s business, and it’s a market that has helped the company grow.

In one instance, a utility company hired TAM and several other contractors to expose a long section of gas main. The utility had originally hired an excavation contractor to do the job with a backhoe, but then hired TAM and the other contractors when the backhoe damaged a section of pipe. Lasaponara had three Vac-Con hydroexcavators on the job.

“The utility wouldn’t let a backhoe finish the job, so we exposed the rest of the pipe along with two other companies, each operating with one truck,” Lasaponara explains. “Our trucks exposed more pipe in one day than any of the other trucks on the job. In all, we exposed about 2,000 feet of pipe. After a couple days, the utility sent the other trucks home and we finished the job by ourselves.”

Getting more work done per day boosts customer satisfaction and increases profit margins, and quality equipment helps out there, too. A good example is TAM’s newest hydroexcavator. “I believe it’s one of the best hydrovac trucks out there,” Lasaponara says. “It’s the biggest hydrovac on the East Coast and the only one in the United States with twin blowers. It’s the talk of the town around here.”



“You can run the twin blowers at a lower rpm — say, 1,150 to 1,200 compared to 2,100 rpm for most trucks,” Lasaponara explains. “That cuts fuel usage in half, and running it at lower rpm means less wear and tear. Plus we can run longer distances — up to 500 feet away — while vacuuming material.”

TAM Enterprises operator Lou Ferra breaks down the extension tubes on his vacuum boom after a hydroexcavation job.

When combined with the company’s standard jet/vac trucks, the hydroexcavator gives TAM a competitive advantage when fixing water and sewer line breaks because it eliminates the need for bypass systems. Here’s how it works:

While the hydroexcavator exposes the line break, TAM crews set up vac trucks to keep sucking up excess water while installing a clamp on the pipe to stop the leak.

The upshot? “The municipality doesn’t have to drain the line and residents don’t lose service,” Lasaponara points out, noting that this setup also eliminates the tangle of hoses and lines that makes operating more difficult. “We can fix most water main breaks



Lou Ferra uses a high-pressure sprayer to clean the main tank of his Vac-Con X-Cavator.

“The amount of debris we took out of that pipe was unbelievable — probably about 10 tons in all. We also had to fill in the void. And all the while, those Vac-Cons never stopped running.”

TONY LASAPONARA



Above: Lou Ferra uses the X-Cavator's remote control while excavating a trench at the Tri-Municipal Sewer Commission Wastewater Treatment Facility in Poughkeepsie, New York.

in four hours. With a bypass and conventional open-cut digging, you're looking at eight hours. So we're cutting the time roughly in half and digging safely, too, plus it's less expensive for our customers."

SUPERIOR SERVICE

One of the main reasons Lasaponara prefers Vac-Con equipment is dependability, a critical factor when his crews are under the gun repairing water main breaks and handling other municipal emergencies. And even if a truck does break down, service personnel help to get things running again quickly.

"Vac-Con really takes time to educate us and service us," he explains. "When something isn't working, you can actually talk to someone who can walk you through it and tell you how to fix it. That really helped us tremendously when we were just starting out. At the time, we didn't have a full-time mechanic, so get-

When the going gets tough, contractor relies on Vac-Cons

With more than 20 years of experience in pipeline cleaning and hydroexcavating, contractor Tony Lasaponara has seen more than his share of tough jobs. But thanks to a fleet of Vac-Con trucks, the owner of TAM Enterprises in Goshen, New York, always feels prepared for any job.

"I've purchased about 20 Vac-Con trucks during the last 20 years or so, some of them refurbished units," Lasaponara says. "They've all been very reliable machines."

Lasaponara bought his first Vac-Con within six months of opening his business, and he's owned many throughout the years. Today, TAM Enterprises owns six Vac-Con trucks:

- Hot Shot flusher built on a 1999 International chassis with a 2,500-gallon water tank and a 2,000 psi/60 gpm pump
- 2003 Sterling with a 1,000-gallon water tank, a 3,000 psi/50 gpm pump, a 9-cubic-yard debris tank and a three-stage (3,600 cfm) fan
- 2004 International with a 1,000-gallon water tank, a 3,000 psi/50 gpm pump, a 9-cubic-yard debris tank and a three-stage (3,600 cfm) fan
- 2013 Peterbilt with a 1,300-gallon water tank, a 12-cubic-yard debris tank, a 2,000 psi/60 gpm water pump, 4,300 cfm Roots Systems blower and a hydroexcavation package
- 2013 Peterbilt with a 1,000-gallon water tank, an 11-cubic-yard debris tank, a 2,000 psi/60 gpm water pump and a hydroexcavation package
- VXP7016LH-1100 hydroexcavator built on a 2015 Western Star chassis with a 16-cubic-yard debris tank, 4,000 psi/20 gpm water pump and twin 7,000 cfm Roots Systems blowers.

Lasaponara says ease of operation and maintenance is a key factor in his loyalty to Vac-Con equipment. "I've been around the industry long enough to see other brands at work, and Vac-Con works really hard to make their machines operator-friendly.

"They're really good trucks," he says. "I highly recommend them — and plan to keep buying them."




Ferra arrives on the job site in a new Vac-Con X-Cavator. The truck is built on a dual steer Western Star chassis with a 20 gpm/4,000 psi pump, twin 721 Roots Systems blowers and a 16-yard debris tank.

ting help over the phone was a big help. They've never let me down."

No vac truck is completely impervious to downtime, and Lasaponara says

his local Vac-Con rep, Brett Gerard at Peirce-Eagle Equipment, always has a loaner ready to keep him up and running when a truck requires service. "Being down just isn't an option for us," he says. "I have competitors that use other brands (of vac trucks), and I'm on call for all of them. When their trucks go down, or a truck owned by a local municipality goes down, they call us because they know we'll be there."

Lasaponara also lauds Vac-Con for listening to customer feedback that results in design changes that improve the trucks' performance. "They're always willing to listen to suggestions," he says. "That's why I keep on buying Vac-Cons." 

Southern Sewer's dedication to service goes back to the company's humble start, when owner Felix Denmon would make sales calls all day and then work on trucks at night. Today, Southern Sewer is one of the largest Vac-Con dealers in the U.S.

FINDING NEW WAYS TO SERVE

Southern Sewer continually looks for opportunities to improve the customer experience

BY **KYLE ROGERS** | PHOTOS BY **ANDREW STANFILL**

If you want a good example of the type of relationship Florida-based Southern Sewer Equipment Sales has with its customers, wait for a hurricane to develop off the Atlantic coast.

"Every time there is a storm off the coast, customers go crazy," says Mike Wood, Southern Sewer's general manager. "It can be 2,000 miles off the coast, but once the news starts talking about it, all the customers on the east coast of Florida start calling us."

It may be nothing more than: "Hey, we noticed our truck was making a funny noise. We need someone to come check it out." But when the equipment is critical to post-storm cleanup efforts, an impending storm turns a funny noise into an emergency situation.

"These trucks, because of what they're able to do, have to be available and up and running, so we're on 24-hour emergency contact with customers in the event a storm is rolling in," Wood says. "We do our best to make sure those directly affected have



their equipment up and running so they are prepared to deal with the storm's aftermath."

EMPHASIS ON CUSTOMERS

That emphasis on service has been in place since the early days of the company. Southern Sewer and Vac-Con, both founded in 1986, were together from the start. In 1991, Felix and Sherry Denmon bought Southern Sewer and built it into one of the largest Vac-Con dealers in the country.

"They took it from \$750,000 a year in revenue to more than \$20 million in annual revenue," Wood says. "Way back in the beginning, Felix would go and make sales calls during the day and then work on the trucks at night. It really entrenched the company with the customers. I mention the very beginning to show that this was

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“IT STARTED FROM A COMMON THREAD BACK IN THE BEGINNING OF MAKING SURE CUSTOMERS WERE TAKEN CARE OF, AND THAT THE TRUCKS WERE UP AND RUNNING NO MATTER WHAT IT TOOK. THAT STILL RINGS TRUE TODAY.”

Mike Wood

not some magical service program that we started two years ago and now all of a sudden we do all this business. It started from a common thread back in the beginning of making sure customers were taken care of, and that the trucks were up and running no matter what it took. That still rings true today.”

Though quality and prompt service has been a staple since the beginning, Southern Sewer continues to find ways to improve. In 2014, the company opened a third facility in the Miami area to go along with a shop in Orlando and the headquarters in Fort Pierce.

“We’ve got three full-time mechanics down in Miami, along with office staff, and they are extremely busy right now,” Wood says. “The timing was right to open up a facility there. With the amount of Vac-Cons in the area, there was a need.”

Southern Sewer also recently brought back a program that had been on hiatus for several years after its initial startup a decade ago — a dedicated parts truck that roams the company’s territory carrying an assortment of truck accessories.

“People can throw a catalog down on a desk and talk about a product, but it really helps when you have someone that actually has the equipment on the truck,” Wood says. “And the beauty of it is, the person we have driving the truck has mechanical knowledge as well. If he rolls into a place and notices an issue with a truck, he can take care of it while he’s there. It’s a hybrid position. He’s got parts, but he’s not just a parts guy. He’s got tools, but he’s not just a service guy.”

GOOD AS NEW

Recent years have also seen the company putting an emphasis on its refurbishment program. “We have always done that type of work, but about 2007 is when we started pursuing it more aggressively,” Wood says.

It was around that same time that the economy was in de-



cline and Florida municipal governments — the vast majority of Southern Sewer’s customer base — were rolling back property tax rates. That meant limited budgets for new equipment purchases.

“They weren’t buying new equipment, but they still seemed to be able to repair their existing equipment,” Wood says. “So we developed a pretty extensive refurbishment program with various levels, all the way to basically rebuilding the entire Vac-Con portion of the truck.”

When Southern Sewer is done with a refurbishment job, the truck may not be new but it looks the part.

“We’ve had customers take a truck back and start using it and other departments will come to them and say, ‘Hey, how did you get a new truck and we didn’t?’” Wood says. “We’ve done close to 40 of these refurbishments in the last several years. It extends the life of the equipment customers have now, plus it further establishes our relationship with them.”

It all goes back to the service mindset the Denmons established early on for Southern Sewer.

“Customers see that they don’t have this dealer who stops by, throws down a brochure, and they never see again,” Wood says. “We are with them from start to finish.”



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