



SMALL MANUFACTURER, BIG HEART

H & H Tube takes care of its people,
community, customers, even competitors

By Eric Lundin, Editor

H & H TUBE is one of those manufacturing companies that defies conventional descriptions. Its business model, its customer base, the products it makes, even many of the metals it fabricates are not in the mainstream. Although the company was founded in Detroit in 1930 to support a bedrock Michigan industry, automotive, it has changed and diversified significantly over the decades and is scarcely recognizable compared to the company it was 80 years ago.

While most fabricators' work focuses on the mainstay of modern industry, steel, H & H initially focused on copper and brass. These metals provide a clue to the company's origins; in the early days it manufactured radiator components. Red metals continue to be the company's primary materials, but over the years it has expanded its expertise to include more metals, such as copper nickel, nickel silver, aluminum, carbon steel, and stainless steel.

Just as it has branched out to work with more metals, it has changed its business model. At its inception it provided a single product line; these days it is both a contract manufacturer and a service center. This also makes the company unique. It has many competitors that are one or the other, but few that are both. And while many fabricators specialize in just a few processes, H & H has developed expertise in many areas.

"We have competitors out there who are strictly redraw mills, and we have competitors out there that are strictly fabricators," said Dan Dreyer, general manager. "Some are hydroformers and some are tube benders. On the other hand, we have the ability to offer a complete package. We can redraw, hydroform, bend, cut, and so on." Other specialties include

precision cutting, deburring, bending, beading, end forming, spinning, machining, brazing, and annealing.

Furthermore, the customers and industries it serves have become too varied to categorize.

“Our business is really diverse, and it’s hard for a lot of people to understand it,” said Cindy Forman, sales manager. “Most of the companies we deal with make one thing. We make parts for consumer goods like industrial brushes, fasteners, pest control systems, fence supplies, medical equipment, aircraft components, fuel lines, HVAC components, electrical connectors, automotive, and *whatever else* anyone wants to bring us,” Forman said.

Last, because it has its own tube redrawing facility, it is in the unusual position of providing raw materials to other fabricators, including some of its competitors.

Much has changed at the company over the decades and the founder likely wouldn’t recognize much about the company these days, but he’d probably recognize its efforts to continually push the boundaries to stay one step ahead of its competitors—differentiation through innovation, so to speak.

H & H’s unique business model and many of its initiatives and programs, such as safety and wellness for its employees and its support for its community, exemplify the best principles in running a company. After evaluating these and a handful of other criteria, the staff at *TPJ-The Tube & Pipe Journal*® and members of the Tube & Pipe Association, International® (TPA), named H & H the recipient of this year’s *TPJ* industry award.

ORIGINS

Before founding H & H Tube & Manufacturing Co., Clifford “C.B.” Higgins had a long history as an entrepreneur and an innovator. He contributed to designing and installing some of the cranes used to build the locks for the Panama Canal; designed and installed an engine for a ship used by Admiral Richard Byrd

for one of his polar expeditions; and had a hand in founding Wolverine Tube Co. and Higgins Brass Co., both of which subsequently were sold.

After founding H & H, Higgins designed and built the machines he would need to make the company’s products. He started with a machine for manufacturing ¼-inch round tubing, and later built machines for making additional round sizes and flat tubing and machines for tinning flat metal. Another noteworthy innovation of his was the first annealing and pickling line for continuous strip.



A monthly meeting among the leaders of the safety committee and management is just one part of H & H Tube’s safety program. The company also relies on the safety committee itself, which comprises every employee, for nonstop vigilance in spotting and correcting any potential hazards.

Although the company was located in Detroit, Higgins had ties to Vanderbilt, Mich., and the Village of Vanderbilt encouraged him to open a manufacturing facility in town. He purchased the land and building formerly owned by the defunct Vanderbilt Chair Factory and began manufacturing the wooden crates necessary to ship the company’s products.

Increasing Product Diversity. Radiator components were the company’s bread

and butter, but it expanded into other markets over the years. An early project was in support of the war effort; during the 1940s it produced approximately 20 million rotating bands for 20-mm shells. The company continued to look for other opportunities in other markets and today serves a diverse and varied customer base. At one extreme, it makes components for explosive charges used by mining and road construction companies; at the other, it manufactures parts for musical instruments. Some of the parts it makes seem to be commonplace, ordinary items, such as a small figure-8 crimp

ring that joins fence components or a line of crimp rings and stubouts for PEX (cross-linked polyethylene) plumbing and heating components. Others are extremely specialized, niche work, such as a part used in a computer’s hard drive or the action bar that goes into Steinway pianos.

Maintaining High Standards. Of course, manufacturing a big variety of components isn’t enough; manufacturing high-quality parts, providing on-time



H & H's management team meets 12 times a year to report the previous month's results and activities to the parent company, Sunspring America. The monthly information is derived mainly from key performance indicators (KPI) that it tracks daily.

Back row (left to right): Don Forman (production manager), Scott Sheppard (director of operations), Ken Ide (environmental manager), and Dan Dreyer (general manager). Front row (left to right): Cindy Forman (sales manager), Sandy Dymond (information systems manager), and Lori Gregory (quality manager).

deliveries, and fair pricing are increasingly important in an increasingly competitive world. It's not just *what* a company does, but *how well* it does it.

Quality doesn't start or stop at any particular stage of the supply chain. In H & H's view, its suppliers contribute to a finished component's overall quality as much as H & H does. It holds its suppliers to the same quality standards that it demands of itself and, a few years ago, made an effort to weed out those that didn't.

"We eliminated quite a few suppliers because our expectations were not being met—quality expectations, on-time delivery expectations, and in some cases price expectations," said Scott Sheppard, director of operations. The expectations are a bit stringent.

"Some of our suppliers used to say, 'If you can supply tube to H & H Tube, you can supply tube to anybody,'" according to Don Forman, production manager.

Insisting on high standards has paid off. In 1981, H & H Tube was the first supplier to receive Ford Motor Company's Q1 Award for Quality in the Climate Control Division. It also has received the Tube Mill of the Year Award from the Copper and Brass Servicenter

Association (CBSA) as well as several customer awards throughout the years.

Furthermore, the company's abilities to both redraw tube and fabricate it are advantageous in terms of lead-time and pricing.

"From a fabricating perspective, we have the ability to get the material we need in the manner that we need it from our own redraw mill," Dreyer said. "We control the material from beginning to the end. Having this control throughout the entire process improves our fabricating capabilities and the finished product. This helps keep costs down and lead-times short. For example, if one of our customers were to approach another hydroformer, the hydroformer would have to order the material from a redraw mill and then hydroform the product. This would extend their lead-time and increase the total cost because everyone throughout the supply chain marks up their portion to make a profit."

TRANSITIONS

Three generations of family ownership and control (Clifford B. Higgins, his son Clifford H. Higgins, and his sons Clifford H. Higgins Jr. and Larry B. Higgins) ended

when the last Higgins retired from the CEO position in 2005. Dreyer, who had been hired as controller in 2000, was named general manager in 2005. Although Higgins family members had driven the company's success for decades, it was time for a nonfamily member to lead the company; Dreyer brought a new perspective to the position. His promotion and a few other key changes initiated a far-reaching cultural shift. Because he was new to the position, Dreyer knew that he'd be tested. He believed he'd pass the test if he communicated directly with everyone on the production floor and would earn everyone's trust if he followed through on his commitments. The company's effort at ISO certification is a case in point.

"I informed everyone that we were pursuing ISO certification," Dreyer said. "An old-timer shouted out, 'We have tried this before you came and gave up halfway through, so why waste our time?' I explained the benefits of ISO and looked him directly in the eyes and told him, 'You have my word that we will be ISO-certified by the end of the year.' Long story short, we were certified by the end of the year. When the old-timer retired, he came to me and said that I had earned his respect because I kept my promise."

Dreyer built on that foundation with other plans and projects, starting with safety.

Safety. When Dreyer says, "We take safety seriously," he means it. The company's safety program is akin to three concentric circles. The safety committee is the largest circle and comprises every employee. The safety team is the middle circle; every employee rotates through this group. Management is the innermost circle.

The three groups have three distinct missions and meet on three different schedules. The safety team conducts weekly inspections; the safety committee meets twice a month to review any safety issues found during the previous weekly safety inspection; the leaders of the

safety team meet with management once a month to resolve any outstanding safety issues. The big push for the safety emphasis came from the Occupational Safety and Health Administration (OSHA).

“We had an OSHA audit,” Dreyer said. “The company hadn’t had any major incidents, but its safety record was not anything to brag about.” It had a lost-day severity rate of 64.4 in 2004. The safety committee turned that around, and now the company’s safety record *is* something to brag about; the number of lost-time incidents dropped to zero in 2007, 2008, and 2009.

The company credits its workers, all of them, for this impressive record.

“We wanted to get everyone involved,” said Cheri Wilhem, the company’s safety manager. “We felt that to have a successful safety culture, we would need the eyes, the ears, and the know-how of everyone. Once everybody was brought onboard and made a part of the safety culture, they became responsible for the safety culture.

“Everyone was trained to audit their department,” Wilhem said. “We also do cross-auditing of departments. Everyone has the right, and the responsibility, to report any safety issues in their departments.”

To keep it fresh, Wilhem makes frequent changes in the training program.

“We change the training constantly, and we challenge everyone to look for opportunities to improve safety, and encourage everyone to make this the safest workplace it can be.” The very nature of the business, with its emphasis on innovation, invites new processes, new machinery, and new risks.

“We bring in new equipment all the time, and we manufacture some of our own equipment, so these are huge challenges in themselves,” Sheppard said. “Cheri does a thorough evaluation of every piece of equipment we make, and looks for every opportunity that might endanger a worker. After a thorough review, we develop a job safety analysis, then we go through the training procedure



The diversity of shapes, sizes, and materials from H & H's redraw mill reflects the diversity of industries it serves.

with the team leaders who become the trainers, and they train the operators.”

At H & H, the commitment to safety doesn’t end at the perimeter of the company’s property.

“We don’t do training only for the workplace, but we supply resources for safety at home,” Wilhem said. “They know we don’t stop caring when they leave the workplace. We care all the time.”

H & H’s safety program received acknowledgment from the state’s occupation safety office. In 2008 the company was formally recognized by the Michigan Occupational Safety and Health Administration (MIOSHA) “to acknowledge your proactive efforts to improve workplace safety and health.”

Education and Training. H & H provides tuition reimbursement to support employees interested in furthering their education. It also supports continuing education necessary to maintain professional certifications or job-related requirements, including CPA, CMA, and ISO lead auditor training; exportation and importation; metallurgy for nonmetallurgists; machinery training; and MIOSHA safety training.

Just as it does regarding safety, the company also has an extensive and

comprehensive cross-training program regarding its machinery. Every employee has a training card that displays proficiency levels for safety, production, and quality for each machine in the shop. A quick glance is enough to determine a worker’s capabilities.

A Personal Touch. H & H thrives on providing a personal touch, long-term relationships, and a sense of loyalty.

This is evident from the first phone call: H & H has a receptionist. The company doesn’t want its customers to have to experience the frustration that often results from dealing with an automated phone system, so every call is answered by a person.

Likewise, it has found that a phone call often isn’t good enough to resolve a customer complaint. A face-to-face discussion usually results in a faster resolution and solidifies the customer relationship.

“We had a case recently in which our customer thought we were making deliveries up to a week late,” Dreyer said. “We visited the customer and in the course of the discussion we found that the problem was actually at their receiving dock. Our shipments were arriving on time, but the people on the receiving dock weren’t checking in the shipments right away.

Often they sat for several days, sometimes a week, so there was a significant difference between the shipment's arrival date and the receiving date."

The company also holds its suppliers accountable. It's not a big company and doesn't place big orders, but it has earned the respect of its suppliers.

"It's not necessarily our size, but our loyalty," said Don Forman. "Most suppliers are willing to supply materials to us, even working outside the norm, to help H & H to launch new product. We seem to have partnerships with our suppliers, and they see the value in what we do; they know that the more H & H can sell, the more they can sell, so they're willing to work with us."

This paves a smooth road for future projects.

"Loyalty leads to long-term relationships, and after a length of time, we know them and they know us, and they understand our needs," Don Forman explained.

Taking Ownership. Dreyer didn't merely institute a handful of changes that he propagated from his office. He and his new management team spend quite a bit of time on the shop floor. They don't practice "management by walking around" or any other fads; they get things done. Sheppard realized that it was a new style of leadership one day when he rolled up his sleeves and helped get a stopped machine up and running.

"The first time I did that, a small crowd gathered to watch," Sheppard said, laughing at the memory. "I asked why they were standing around and watching. They told me that they'd never seen anyone in management get his hands dirty."

This type of leadership—a straight-talking style, willingness to help with production problems, and the ability to deliver on promises—led to something nobody anticipated: a sense of ownership. The workers don't just go through the motions of the safety program or help with a kaizen blitz—they own

nearly everything they do.

"At first we led a few kaizen events," Sheppard said. "Now we simply discuss a problem and they take care of it themselves—they don't need management in there telling them what to do."

Don Forman noticed a change in perspective in day-to-day operations too. "People don't see their job in isolation anymore," he said. "If we redraw a tube and the next step is to ship it to a customer where it will be straightened, people at H & H take that into account. We think about the customer and his operations and try to anticipate his needs."

Lori Gregory, quality manager, thinks this sense of ownership came into play during the company's ISO certification process. During its initial certification audit, the company was found to have five nonconformances; in a subsequent audit, the company improved substantially and received zero. That might sound difficult, but Gregory wasn't surprised. She credits the company's teamwork and employees' sense of ownership with making it possible.

"We drive our own initiatives here," Gregory said. "We don't need an auditor to find ways for us to improve."

PURSUING MORE OPPORTUNITIES INTO 2010 AND BEYOND

For decades H & H has been willing to take on new challenges, and word of this continues to spread to this day. Although the company's sales staff is relatively small, it has a large, informal sales network in the metals industry.

"Some of the best salespeople are our customers," Cindy Forman said. "When they move from one company to another, they remember us. We do a lot of unusual things, so when they're looking for something unusual or unique, they call us."

The company also has a reputation for accepting projects that are a little too challenging.

"We have one customer who initially called us by telephone to discuss a part

he wanted manufactured," she continued. "We told him that it couldn't be done. A few days later he called again to tell us that he was at the Gaylord Airport, and asked us to pick him up. We didn't even know he was coming. He wanted to talk to Don and Scott and, after he arrived, he said he wouldn't leave until we agreed to make the part for him. We make the part to this day. He's not the only customer who wouldn't take no for an answer."


Taking on these challenges forces the company to explore new possibilities, develop new processes, and purchase additional equipment, which enables it to explore still more possibilities and develop additional processes, which has turned into a virtuous cycle of learning by doing.

H & H also pursues other opportunities on its own initiative.

"We attend a lot of tradeshows to keep our fingers on the pulse of the industry," said Sheppard. "I just came back from an alternative-energy convention in California. We're always on the lookout for new opportunities."

Like all companies, H & H tries to find a reasonable balance between pursuing opportunities and turning them down. Time and money aren't infinite, so it must choose carefully.

"We don't go after every opportunity," Dreyer continued. "We pick and choose which markets we think will have longevity and which ones have opportunities that fit our capabilities." Considering the company's growth over the past 80 years, it's sure to continue to expand its capabilities wherever and whenever necessary.

Especially if it keeps getting customers who don't take no for an answer. 

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