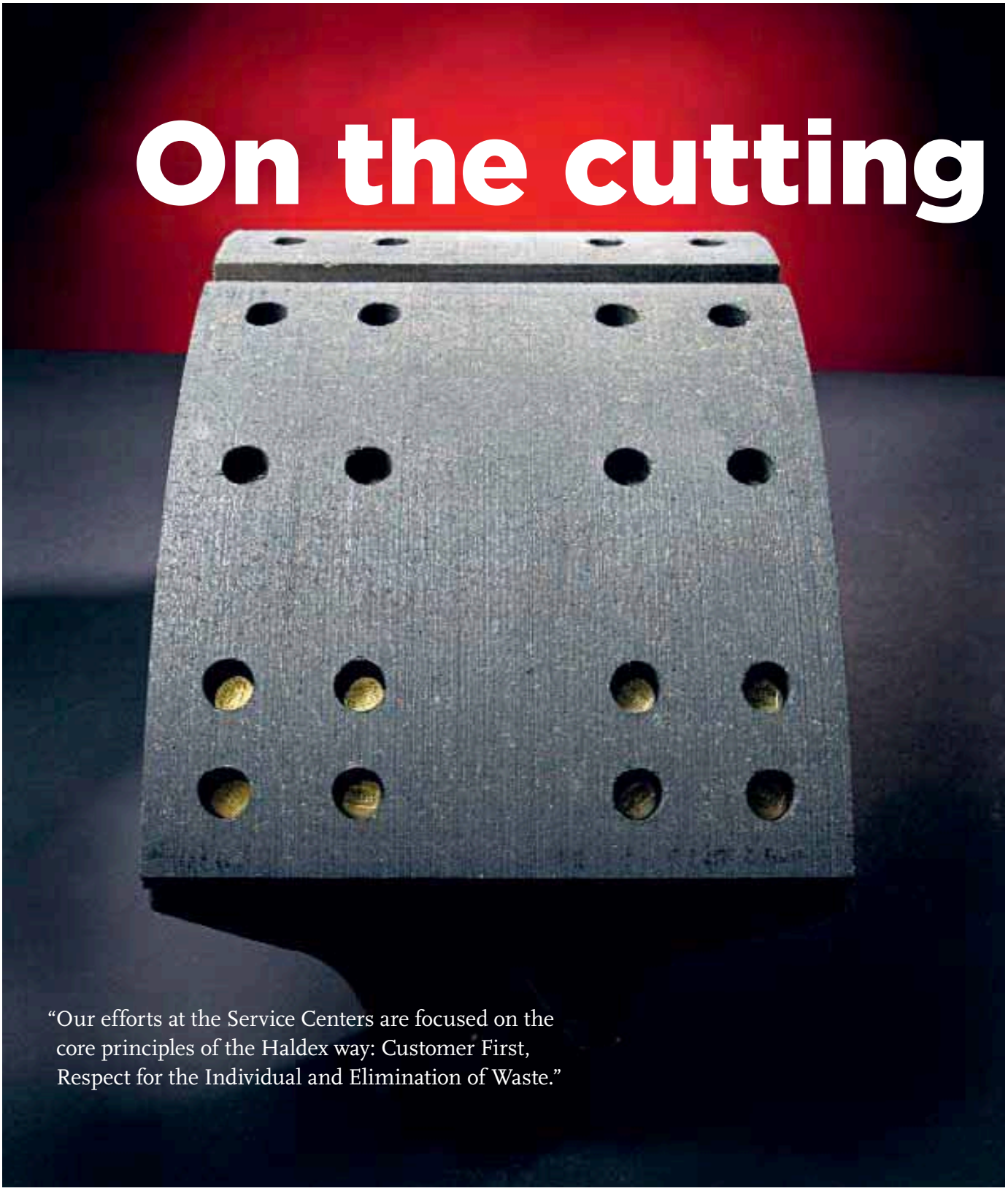
On the cutting



"Our efforts at the Service Centers are focused on the core principles of the Haldex way: Customer First, Respect for the Individual and Elimination of Waste."

edge of relining

Relining brakes has become a high-tech science at Haldex's brake shoe relining plant in Grand Rapids, Michigan. The operation is geared to and driven by what the customer is ordering.

Text and photos Dwight Cendrowski

WALK IN THE MAIN ENTRANCE of the Haldex brake shoe relining plant in Grand Rapids, Michigan, turn right past the time clock, walk 50 feet, and you'll step into the future of the dynamic brake relining industry. Behind you is the older portion of the plant, with dim lights, a stained concrete floor and a look that is less than modern. Ahead is the year-old 6,000-square-foot addition. Bright and clean, with freshly painted walls, it has a modern, almost cheery, scrubbed look that belies the gritty nature of the work done here.

This plant, in the heart of America's Midwest, is the model for all 12 of the Haldex Commercial Vehicle Systems' Service Centers in North America. Worn and damaged brake shoes from big trucks and other heavy-duty vehicles come into the Service Center, where, using increasingly sophisticated equipment, employees refurbish and reline the brake shoe cores, sending them back out into service. And just as the brakes are being remanufactured, the Haldex plants themselves are being reconditioned into modern, advanced facilities.

"It's a dynamic industry, and you've got to be nimble," says Brian Cordle, Haldex sales and marketing manager. More and more competitors are springing up worldwide, from Asia to Mexico to South America. "We're making sure we do a good job communicating with our customers," he says.

That's what's happening at the Grand Rapids shop. Service manager Chuck Zimmer points with obvious pride to the bright, new relining space as he ticks off the reasons Haldex is a tough competitor: unmatched service and quick response to customer orders, the most reliable brake linings (made by Haldex in Prattville, Alabama) and an unflagging devotion to quality in every step of the manufacturing process. As an example, Zimmer points a basin where newly processed brake shoe cores are dipped in a paint and rust inhibitor. To keep the active ingredients evenly suspended, he says, "the paint is stirred seven days a week, 24 hours a day, and new paint is stirred for eight hours before it's added."

Haldex has the relining process down to a science, and newer facilities, streamlined workflow and advanced technologies are kicking the process into the higher gear demanded by the increasingly worldwide competition. Helmut Derra is Haldex's director of friction remanufacturing in North America. "Globalization of the supply chain has made the market much more competitive in the past couple years," says Derra. "Our efforts at the Service Centers are focused on the core principles of the Haldex way: Customer First, Respect for the Individual and Elimination of Waste." The Grand Rapids plant showcases that determination.

THE EXTRA OPEN SPACE HERE provides for the ebb and flow of customer orders. When spring comes to the Midwest and orders spike, the extra space and capability is there to absorb the work without a hiccup. "It allows us to run a smooth flow and do the quality checks needed to ensure that we have top-quality parts going out," says Zimmer.

"Quality" is a word that surfaces again and again. From the beginning to the end of the process, quality checks are stressed. The operation is geared to and driven by what the customer is ordering. On average, more than 10 percent of brake shoe cores that come in don't pass muster and are discarded.

One examples of cutting-edge technology

Roger See examines each core as he removes them from the paint line.

A special paint with rust inhibitor assures uniform coverage and corrosion resistance.

"The paint is stirred seven days a week, 24 hours a day, and new paint is stirred for eight hours before it's added."

Chuck Zimmer

used by Haldex is the deliner. The computer-controlled machine uses laser technology to automatically remove the rivets and old linings in far less time than older mechanical methods, thereby increasing efficiency. And when the brake shoe core is freshly painted and dried, a new hydraulic riveter applies high pressure to assure a long-lasting, foolproof adhesion. Attention to detail in every step of the process focuses on added value. Says Derra, "Our customers won't pay for non-value add in our processes."

There's no getting around the fact that machining brake cores in this process can be a dirty business. But here Haldex has moved to assure a high-quality outcome by keeping the plant clean and free of dust. "If you had seen our shop before, it was dusty and dingy," says Zimmer. "So we added a ducting system that goes to each machine and draws away the dust as it's being created. When you're running a cleaner environment, the parts you're sending out are cleaner." And that's better for both plant workers and customers.

Walk the plant, and you'll evidence of improvements everywhere. Bright halogen lighting gives the area a vibrant, even optimistic feel – not what you'd normally associate with a remanufacturing operation. New, easy-to-clean epoxy floors replace the old cement flooring that held dirt. Each work area now also has a vacuum system to let employees clean their areas and get to those hard-to-reach places, much like a whole-house vacuum system you'd find in newer, upscale homes. Even what seems like a simple rearrangement of materials around the riveting station increases efficiency, meaning less traveling for the operator and quicker response time for urgent orders. Director Helmut Derra's goal is for what he calls a NASCAR race shop look: "clean, well-lit, almost a lab environment.

"At the end of the day, we want facilities we can be proud of," he says.

Haldex has a 45-person sales force that tends to customers across North America. Chuck Zimmer regularly accompanies sales people on client visits throughout the upper Midwest, troubleshooting and educating them on methods and materials. Says Derra, "We're regarded as being the top sales force in the industry. We're not just taking orders. It's quality. It's responsiveness. It's delivering performance." These traits are necessary to go head-to-head with the competition in this tough, gritty business. With innovation in products, processes and facilities, Haldex is determined to provide relined brakes that lead the industry in durability and long, worry-free operation. ◘

Remanufacturing start to finish

The Haldex Commercial Vehicle Systems division provides brake relining services for vehicles that are class 6 and up. These are the big rigs of more than 25,000 pounds. All the linings are made by Haldex to rigid specifications in their plant in Prattville, Alabama, in the United States. As in all Haldex's U.S. plants, the Grand Rapids facility follows a tried and true workflow. Worn brake shoes come into the plant and are immediately inspected to weed out obviously deformed and defective cores. They are then run through a high-temperature washer to remove oil and road residue. Another inspection includes a test for "stretch," or an unacceptable bend in the radius of the brake shoe. Next comes the computer-controlled deliner, where rivets and old linings are removed. Then there is one more inspection before going into the blaster, where tiny steel shot pellets scrub the metal. Near the end of the process, the cores are immersed in a specially formulated paint and run through an oven to dry. Finally, friction material (of the customer's choosing) is securely riveted to the core, using a new, precision hydraulic riveting machine. It is inspected once again before boxing and shipping. Haldex has the flexibility to handle orders of less than 100 or more than 1,000.

Left to right; Chuck Zimmer, Scott Busbee, Roger See, Mike Westra, Dale Systma and John Trestrail make up more than 60 years of relining experience.

With an eye for detail, Mike Westra loads a brake shoe into the deliner machine.

Dale Systma is confident that the parts he rivets are of top quality.