METAL

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Text and photos: Dwight Cendrowski

A smooth ride with the Cadillac of robots

Wolf Robotic's 110,000-square-foot plant is nestled at the base of the spectacular Rocky Mountains in Fort Collins, Colorado. From here, Wolf Robotics designs, builds and installs heavy welding installations for large companies throughout North America. The welding system of choice is an integral part of Wolf's history.

> Wolf Robotics develops welding stations using the latest technology for customers that range from Caterpillar and Deere-Hitachi to the venerable motorcycle maker Harley-Davidson. From the time the company first used robots in its installations in 1976, its only robot supplier has been ABB. "We've grown up with them," says Marketing Coordinator Chuck Boyer. "They're kind of like our parents." In fact, before 2003, when Wolf Robotics became a part of the Rimrock Corporation, it had been a part of ABB's welding system division for 10 years.

However, Wolf doesn't stay with ABB just for sentimental reasons, says Boyer. "We think the ABB is the Cadillac of robots out there." Marketing Manager Chris Norris agrees. He sees customers using their systems with ABB robots for many years. "It's an integral part of the system in regard to the heavy welding tools and the adaptive capability. If you look at the install >

Gordon Wolschlager with the handheld controller, or teach pendant, unique to ABB.

base of the ABB, you're going to see customers with systems with hundreds of thousands of hours on a 20-year-old or older product."

Walking through Wolf's spacious, well-lit plant, Boyer points out details of the six separate customer installations at various stages of construction, from initial setups to those such as a large Caterpillar assembly being disassembled for delivery. These are MIG welding applications, where metals are fused together by a high-voltage electrical arc while a filler wire is fed into the arc for added strength. Host setups are fully enclosed, with walls and a hood that keep the bright arc light, smoke and contaminants away from the operator. The fencing or walls also keep the operator safe by preventing accidental contact with the robot.

Wolf uses four sizes of ABB robots in its projects, from the diminutive IRB 140 to the larger 4400, which handles loads of up to 132 pounds. Every installation is customized and built from the ground up. And key to every one is the ABB robot and controllers.

"We are not a low-cost provider," says Norris, "We think we provide our customers with the most value, and we've got very good customer loyalty. If you look at what we have, it isn't going to be 'robot in a box.'" Moreover, as a high-end provider of welding workstations, Wolf needs high-quality robots at the core.

After months of work building the cell for Caterpillar, workers this day are dismantling it for shipment and installation. Taking a break from this work, assembly technician Norris Samuelson offers his opinion of the ABB components. "They're really easy to work on," he says. "The cabinets are easy to wire and troubleshoot. If you get a short, with ABB's documentation, it's not hard to follow it down the line."

The handheld controllers or teach pendants that operators use to guide the robot feature an ABB-patented joystick that no one else in the industry is using. Customers like it, as do the children in school groups that occasionally tour the Wolf plant. Boyer laughs as he describes talking to youngsters about their video game expertise. "Future robot techs here," he says. "You're good with the joy sticks, and you're going to catch right on with our robots."

Operations Manager Darren Pape is checking a job in the plant, and he points out an older robot among the projects. Wolf is refurbishing the system, adding software updates. But the robot itself, while gritty from use, is still going strong.

Wolf employees are proud of the level of service they provide. It's an integral part of their success, according to Terry Merrifield, customer support manager. "We've got the best customer support engineers in the industry," he says. "They get training in programming, electrical, mechanical, tear-down and advanced heavy welding tools."

An important ABB product that lets Wolf give added value to its customers is simulation and off-line programming software called RobotStudio. After a customer sends a CAD drawing of the part to be welded, the off-line 3D modeling software enables Wolf engineers

Terry Merrifield and Chris Norris explain why Wolf needs high end robots: "We provide our customers with the most value."

Darren Pape appreciates the competitive edge offered by RobotStudio.

"There's a manpower shortage in the welding industry that's going to hit in about four years."

Chuck Boyer

to develop and evaluate a welding program for the part. "It's a really good program," says Boyer. "It will provide an accurate time cycle that lets us go back to the customer and say 'We can weld that in x number of minutes.' And after we sell the system, we also sell the RobotStudio to them so they can also use it to program parts in the future." It's a proven time saver on the production floor. Says Darren Pape, "It's more advanced than competitors' products, and we're probably the best user of it in the U.S. It's become more and more standard on these larger systems."

Another advanced ABB product Wolf uses to add value for its customers is the BullsEye. Looking much like a horseshoe, the unit uses an infrared light to let the robot continually calibrate itself and adjust its tool center point, greatly reducing downtime.

Wolf takes products such as the BullsEye and RobotStudio and customizes them to solve customer problems. It's teamwork, notes Pape. "Our niche and expertise is heavy welding. So it's a combination of the ABB capabilities in heavy welding tracking, the multiple seam paths and our knowledge and expertise in applying and enhancing it."

Robotic welding systems have been used for many years in heavy industry, and they form the core of Wolf's business. Smaller manufacturers, however, can be a tougher sell. Many of these "mom and pop" shops haven't seen as much need to automate, but they may be forced into change. "It's coming to a head pretty quick here," says Boyer. "There's a manpower shortage in the welding industry that's going to hit in about four years. People don't want to be welders. It's a dirty job, not the computer job everyone wants today." Reports state that by 2010, through retirements, the industry is going to be losing as many as 200,000 jobs, and newcomers are not lining up to fill those jobs. Boyer notes, "When we first started selling robots we thought we would come up against people protesting, 'Hey, robots are putting people out of their jobs.' But that's never been a problem, because nobody wants the jobs."

Also on the horizon is the newer technology of laser welding. Robots continue to spare workers from the most dangerous jobs, handling the most difficult and demanding applications, often in the most contaminated environments. And Wolf Robotics, backed by ABB, is there to provide answers to its customers' welding challenges. ⊙

>FACTS

A very special installation

A large welding installation for Caterpillar typifies the type of industrial applications built by Wolf Robotics. The parts being welded are for off-road construction vehicles. The setup includes:

- ABB IRB 4400 robot with S4Cplus controller
- 5,000-pound-capacity drop center positioner
- 30-foot robot track system
- 16-foot-tall column with robot mounted on a vertical lift arm
- BullsEye calibration unit, torch cleaner assembly, Advanced Weld Control (AWC) sensor and tandem wire Fronius welding power source and welding torch
- ABB RAPID robot programming language and ArcWare software.

For comparison, two different parts welded by this system measure 6 feet wide by 4 feet high and up to 8 feet in length. Each part can be welded in four hours by robot, but welding by hand would take 6.7 hours for one part, and 11 hours for the other.

Cindy Hartman and Don Hogue are proud over Wolf's level of service, and of its integral part in the company's success.