



# Wolf Robotics

## Case study: Metal Fabrication

### Applications

- Arc welding

### Products

- Heavy welding installations



## A proven time saver on the floor

**Wolf Robotics designs, builds and installs heavy welding installations for large companies throughout North America. The welding system from ABB 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. 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 Chuck Boyer, marketing coordinator: "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 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. 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.



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

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.

### RobotStudio adds customer value

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

An important ABB product that lets Wolf give added value to its customers is the 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 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, operations manager: "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." ©

### > FACTS

#### Benefits

- Robots spare workers from the most dangerous work
- Robots handle the most difficult and demanding applications
- Calibration tool for tool center point has greatly reduced downtime
- Simulation and off-line programming software provide an accurate estimation of cycle
- Simulation and off-line programming software is a proven time-saver on the production floor