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Simple as the standard

By reducing welding consumables to a single supplier, automotive part manufacturer streamlines robotic welding systems

Just as a rifle needs ammunition, a robotic welding system requires consumables to work. But whereas a 22-caliber round can be used across multiple makes of rifles, a robotic welding setup tends to have individual, proprietary and OEM-specific nozzles, tips or liners. Even if two robotic welding systems are similar, the nozzle thread pitch might be different.

For companies that operate multiple robotic welding cells for which the robots might come from different manufacturers, keeping track of which consumable will work with each machine can be cumbersome. One consumables company, American Weldquip, based in Sharon Center, Ohio, has been helping fabricators standardize welding essentials for nearly three decades. The company manufactures semiautomatic, automatic and robot MIG torches, consumables and robotic peripherals.

Take one of its clients, Hatch Stamping Co., based in Chelsea, Michigan. Hatch Stamping employs about 700 people on two shifts across five facilities totaling 314,000 sq. ft. in Michigan, Tennessee and Mexico. About 10 percent of those workers are welders. Hatch Stamping primarily manufactures parts for the automotive industry — such as brackets and other components for fuel systems, seats and antilock brakes. Its capabilities include progressive presses with automatic coil fed systems, line die presses and automated assembly, in addition to robotics and welding. It's a modern operation compared to when it began.

Hatch Stamping was founded in 1952 by Raymond Hatch and his brothers Walter and Joseph, who all worked for manufacturers around metro Detroit. They began with the purchase of a 10-ton Ames press. As the business gradually grew, Raymond Hatch seized opportunities to produce stamped parts and tools. One customer

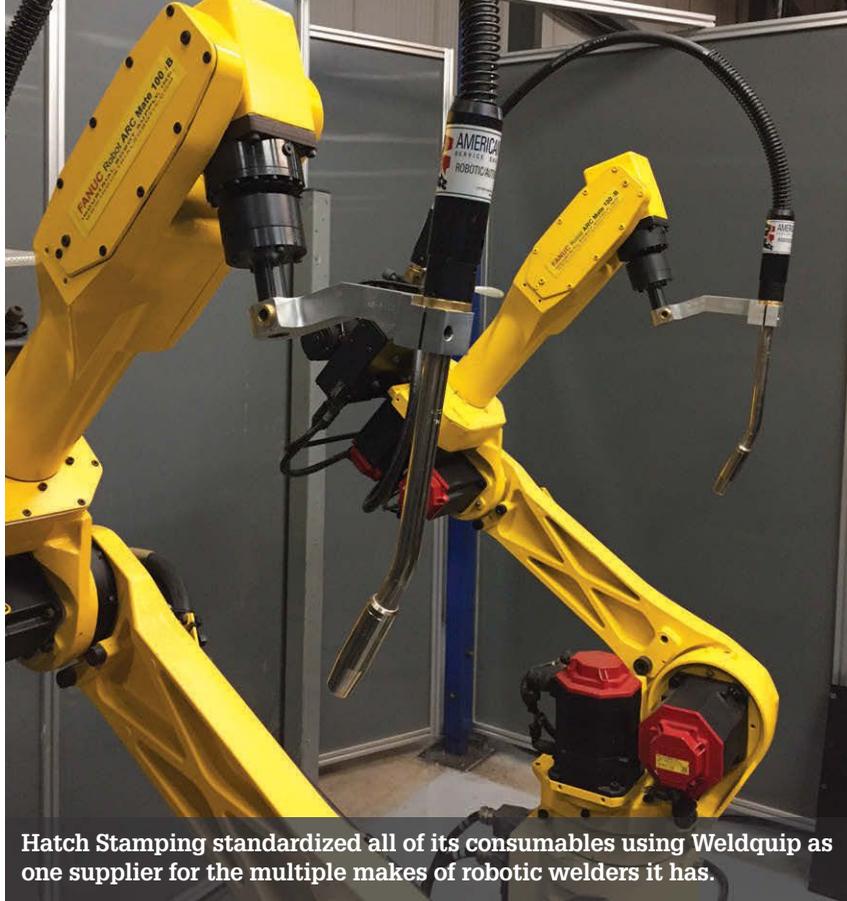
needed stamped model train parts. Vokar, a manufacturer of resistors, inquired next, followed by Dexter Automatic Products. Ultimately, the chance arose to churn out production parts for the U.S. Army's M1 rifle.

All told, Hatch Stamping now has a dozen Fanuc robots and controllers paired up with welders from Lincoln Electric and Miller. Those systems require torches, tips, liners, whips, safety clutches, nozzles and tooling brackets.

Dealing with part numbers from two suppliers and managing an



The Weldquip robotic torches are compatible with Hatch Stamping's Miller and Lincoln Electric welders.



inventory that includes all those consumables for different OEMs made for unnecessary headaches. Using American Weldquip “allows us to have only a select number of replacement parts on the shelf accommodating all weld cells,” says Matt Craig, weld supervisor at Hatch Stamping. Dealing with part numbers from multiple suppliers made for nonessential steps in the process.

Streamline, standardize

Weldquip enabled cost cutting associated with multiple consumable brands by narrowing it down to one. The efficiency lets Hatch Stamping order only a few consumables and replacement parts that will fit all of its weld cells. It’s more cost effective, and tends to be faster in terms of delivery. Hatch Stamping receives orders from Matheson Tri-Gas, a distributor in Howell, Michigan.

Additionally, Craig found that Weldquip’s tip design “increases longevity, reducing downtime and saving on consumable costs, ultimately providing cost savings as well as process efficiencies.” Other companies for which Weldquip supplies consumables have experienced the same difficulties that come with wrangling several suppliers. Weldquip’s larger tip conducts more heat compared with



American Weldquip manufactures its contact tips with CNC Swiss turns at its Ohio facility.

competitors’ smaller tips, which tend to wear out faster.

Ron Doll, Weldquip’s territorial sales manager, says his company was introduced to Hatch Stamping through a mutual contact. Weldquip reviewed Hatch’s welding operations and determined that the nozzle quality it used could be improved.

“To give you an example, our competitors make their nozzles out of thin wall tubing whereas we actually machine them out of solid brass or copper, depending on the customer’s spec,” says Doll. “We don’t go out there making fancy claims. We just let them use the product



Weldquip’s gooseneck design dissipates heat by providing a continuous metal-to-metal path from the nozzle to the front of the handle.

in their environment, then look at the numbers.” Weldquip says its nozzles will typically outlast its competitors’ product in a range of ratios from 3-to-1 to 10-to-1. “We let them evaluate, and ours was holding up much longer. Our contact tips were heavier, last longer and the whole torch system is designed to move heat better than our competition. That’s our claim, we move heat better than anyone else,” says Doll.

Weldquip’s line aids Hatch Stamping’s nonrobotic welding processes, too. Everything Doll specifies for the robotics also works for the hand-held welding guns. “They have a handgun there for maintenance,” he says. “Sometimes end-users will have 10 or more torches at the end of a line to do repairs or rework. All of those consumables on the robot are interchangeable with the handguns as well.”

Hatch Stamping also uses one of Weldquip’s Advantage ArcSafe through-the-arm robotic collision protection systems. Another customer, Atlantic Tool & Die, with headquarters in Strongsville,

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Ohio, uses the ArcSafe all throughout its plant, the vendor says.

Founded in 1987, Weldquip engineers its products for durability. For example, on its machined brass conductor tubes, the company uses about 30 percent more copper than that of its competitors. “Then we insulate it and put a big brass tube over it, whereas others may have an aluminum cover,” says Doll. “We use that heavily walled tube not only to strengthen the neck but as a part of that heat transfer.”

The nozzle is connected to that outer tubing, giving the generated heat in the nozzle somewhere to go. Most competitive nozzles are insulated from the neck, but isolation isn’t always good because it sacrifices the consumable—that can be great for the manufacturer, but not necessarily for the customer.

About 60 percent of Weldquip’s robotic torches are customized to meet the requirements of end users, says President



Weldquip says it overengineers its products to withstand the demands of its customers’ fabrication environments.

Howard Fisher. About 10 percent of hand-held torches are customized. “Because we manufacture 95 percent of the products we sell in our facility, it allows us a fast turnaround time on specials. Most items will ship within three days of an order,” says Fisher. Performing the engineering

and manufacturing within the United States “allows us to remain flexible to our customers’ needs and offer fast delivery on items, and we have greater control on our quality standards. Over the years we have resisted the urge to find a cheaper source overseas.”

At Hatch Stamping, welders wanted to keep welding consumables simple so they weren’t scrambling to figure out what part goes where. After simplifying its stock with a domestic product, now every single robot and gun in its shop are standardized. With an improved welding operation, the benefits of simplicity reflect the product going out the door. **FFJ**

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Hatch Stamping Co., Chelsea, Mich., 734/475-8628, www.hatchstamping.com.