

On edge

Plasma technology no longer takes a back seat to fiber lasers with its ability to cut different materials, thick and thin

BY LYNN STANLEY

When pickup trucks went four-door in the 1960s, the practical “form follows function” design dogged the vehicle, relegating it to a work-duty transportation option. Decades later, smart technology with all the bells and whistles has taken the modern truck a long way from its utilitarian roots. Rashad Galloway says fresh concepts have helped plasma machines evolve in a similar fashion—by boosting performance and expanding capacity.

“It used to be that when you thought of a pickup truck it was just something you hauled things in,” says the fabrication product manager for MultiCam Inc. “Today’s trucks coming off the production line have leather seats, entertainment centers and decent gas mileage. You could drive one cross country. It’s a bit like that with plasma technology. Years ago, when fabricators considered plasma cutting, they thought about mild steel. But in the last four to five years, we’ve been able to expand plasma’s cutting capacity to include aluminum and stainless. Fabricators don’t have to go to a fiber laser to cut these metals.”

With its manufacturing facility in Dallas-Fort Worth, MultiCam has 60 technology centers dotting the globe with sales and service in more than 100 countries. The company’s CNC-controlled cutting solutions (plasma, laser, waterjet, knife and router) serve applications from sign making, digital finishing, sheet and plate processing

and cabinet making to requirements for aerospace, automotive and other markets. MultiCam’s plasma machines are equipped with Hypertherm’s XPR power units. Introduced in 2017, the cutting system makes it possible to process material from very thin to mid-range thicknesses.

“The XPR unit has improved mild steel cutting by as much as 20 percent,” says Galloway. “When we demonstrate cut quality for stainless and aluminum on a plasma machine, people think that processing was done by a fiber laser because it is so good.”

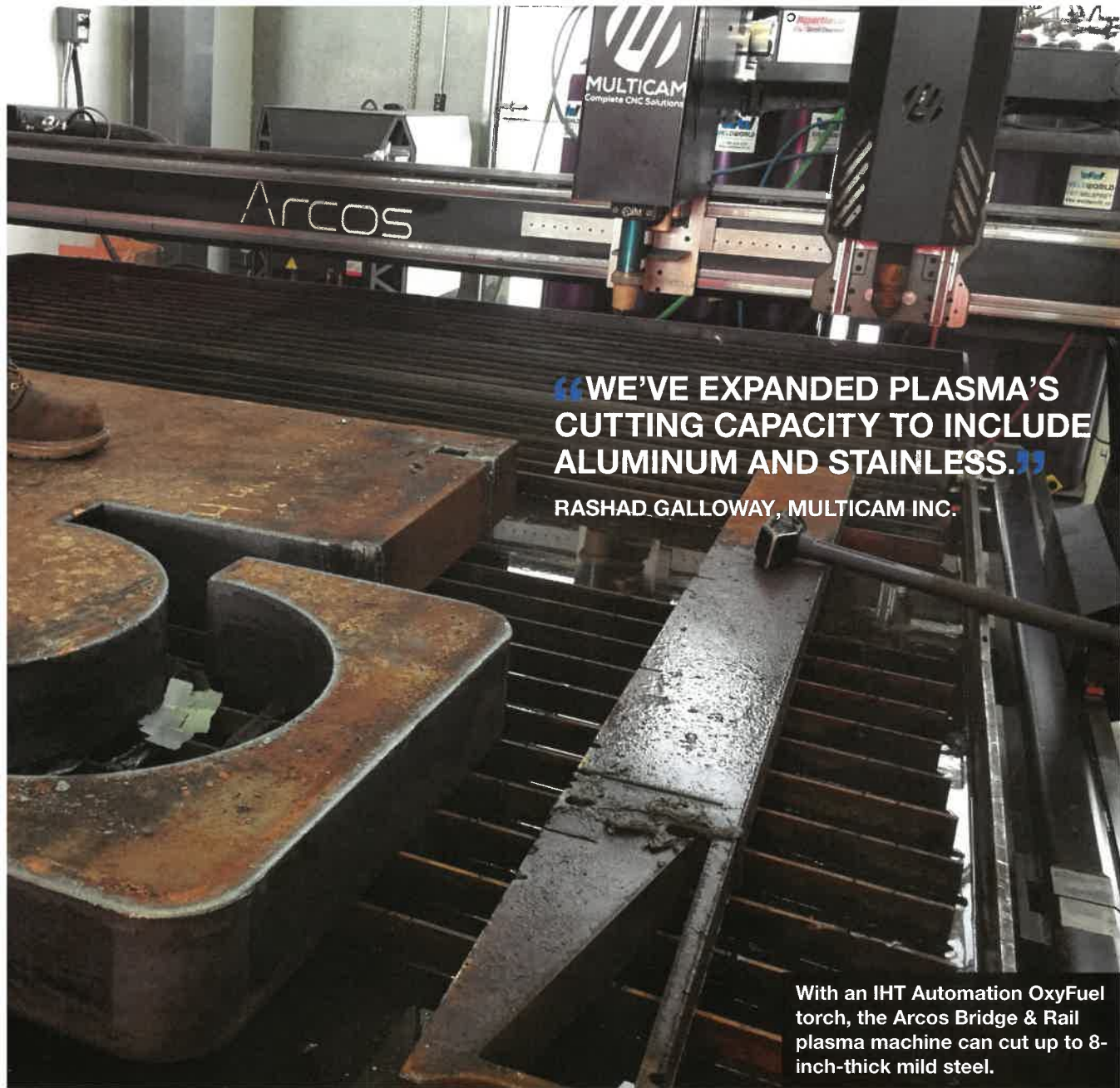
An education

The challenge he notes, is education. Market perception and rapid growth has



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With an IHT Automation OxyFuel torch, the Arcos Bridge & Rail plasma machine can cut up to 8-inch-thick mild steel.

tended to position fiber laser equipment as the fair-haired child of cutting machines.

“We offer a full range of cutting equipment, including fiber,” says Galloway. “Our goal is to understand each customer’s requirements so that they are able to select the right machine for their needs. If you are primarily cutting thin-gauge material, fiber makes sense. But if your routine includes cutting thicknesses up to 2 inches, fiber is an expensive investment. A fabricator has to consider how often they will need to process thick material. We can help them determine the ROI on what would roughly be a million-dollar investment.”

Conversely, plasma can cut thin gauge and 2-inch-thick material economically at volumes ranging anywhere from 100

to 150,000 parts per run, according to Galloway.

MultiCam’s 3000 series machine offers fabricators a modular design that integrates the motion platform with the material holding table. A rigid all-steel plate frame supports standard or high-definition cutting with minimal vibration. The machine’s high-speed contouring system eliminates the time typically lost on corner cutting. A database holds critical parameters like feed rate, pierce delay, pierce height and other variables for each type of material. Once an operator selects the metal to be processed, parameters automatically adjust. Specifications can also be set up remotely.

To help fabricators and service centers tackle bigger jobs, the machine builder introduced the Arcos Bridge & Rail Plasma in

2017. This model improves acceleration by 200 percent and increases traverse speeds by 50 percent in comparison to the company’s 6000 Bridge & Rail Plasma. The system features both the Hypertherm plasma and an IHT Automation OxyFuel torch.

“If a fabricator or service center’s cutting jobs exceed 3,000 cycles, we recommend the Arcos with a Hypertherm XPR300 power supply,” Galloway says. “The plasma can cut metal from gauge up to 3-inch-thick carbon steel and 2-inch-thick stainless steel. With the IHT Automation OxyFuel torch, the machine can cut up to 8-inch-thick steel. Its oxygen gas stream can travel faster than the speed of sound. And the torch automates the cutting process from start to finish.”

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plasma technology



MultiCam celebrates its 30th anniversary this year with production of more than 13,000 machines from its 108,000-square-foot Texas facility.

separated the Arcos motion platform from its material holding table. "You can cut heavy material to your heart's content," Galloway notes. "The motion platform remains consistent from the first cut because it's separated from the table holding the material."

MultiCam's 6000 Bridge & Rail offers a drill and tap option for very thick plate.

Aside from informing customers about the advances in plasma technology, the company says maintenance is another component of the education process.

The need for clean

"Plasma machines operate in what can be a punishing environment," says Galloway. "Fabricators are throwing material on the machine and getting it out as soon as possible. As a result, maintenance tends to be neglected. It can be a hard sell to get customers to change out consumables. But these components have to be changed or cut quality begins to taper off."

Since components have to be changed manually, the task points to another aspect of maintenance—contamination.

"The shop floor isn't sterile," Galloway says. "Employees generally are touching the components with soot and grease on their hands. This shortens the lifespan of these items. The business owner is focusing on the number of parts that were needed yesterday. The operators are trying to meet the numbers. For them to slow down long enough to wash their hands and change their gloves—they don't do it."

MultiCam encourages customers to look at which parts and materials they cut a lot and recommends switching out the whole module. "We provide plug-and-play kits that make this very quick and easy. The XPR's new design reduces the amount of direct contact between the operator and the components."

An operator can recoup additional minutes by pre-loading a new module while the plasma machine is cutting. Once the job is done, the module can be locked into place but "operators still have to wash their hands and change their gloves."

As for the aftermarket service component, Galloway says, "We can have a tech to a job site in a day or respond in real time via email or phone. Once you are in the MultiCam family, you are in it for life. If you are cutting material, we have a solution. No matter if you are a small, entry-level job shop or a large service center." ■

MultiCam Inc., Dallas-Fort Worth Airport, Texas, 972/929-4070,
www.multicam.com.