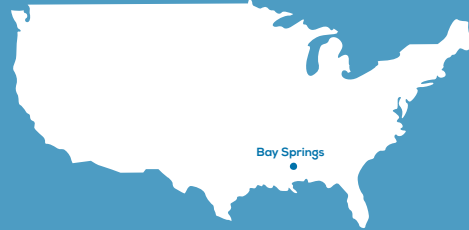


6# LEADERS

HOL-MAC CORPORATION - UNITED STATES

CONTROLLING DESTINY



The record sales of Hol-Mac's garbage trucks, knuckle-boom loaders and premium truck accessories required adding a 6 kW Phoenix 4020 fiber laser with a 10-shelf Compact Tower for lights-out operation.



Jeep with Hammerhead® bumper



Jamie Holder

“Without the LVD lasers, we wouldn’t be able to compete.”

Any family business is a challenge, but Hol-Mac Corporation has been blessed since its founding by Charles B. Holder, Jr. in 1963. Starting as a three-person welding and machine shop, Hol-Mac now employs more than 800 people. It operates five facilities covering more than 55,740 m² of manufacturing space, with headquarters in the small town of Bay Springs, Miss., 104 km southeast of Jackson.

As a result of working with major OEMs in the mining, construction, agricultural and railroad industries, Hol-Mac embraced lean manufacturing principles, including 8 Wastes, 5S, Kaizen, Poka Yoke (mistake-proofing), point-of-use storage, Kanban and advanced product quality planning (APQP). In the late 1990s, Hol-Mac embarked on its own journey to become a world-class manufacturer.

“We wanted to diversify to control our own destiny and grow job

opportunities for our employees,” says Jamie Holder, president and COO. “We began developing our Pac-Mac® products for the solid waste and non-hazardous hauling industries in 1996. Then in 2008, some of our employees who enjoyed four-wheeling designed what would become the Hammerhead® line of aftermarket bumpers for trucks and Jeep. These are robust, heavy-duty, premium products, yet our manufacturing efficiencies enable us to offer them at a competitive price.”

30 to 40% productivity increase

To manufacture the Pac-Mac product line, the company acquired a 8746 m² facility on 14 acres, which it now calls Plant 3. The facility initially focused on machining, welding and assembly. Hol-Mac would bring in cut parts with a 4 kW Sirius 3015 Plus CO₂ laser at Anel Corporation, a subsidiary located about 120 miles away. The growth of the Hammerhead line – which has

experienced record sales every year since its introduction – required a different strategy, however.

“In the aftermarket industry, customers want something the next day,” says Holder. “For build-to-order products, our maximum lead time is two to three weeks. Outsourcing doesn’t work. We had to have the ability to cut parts in-house, and do it accurately.”

In 2014, the company installed a 4 kW Sirius 3015 CO₂ laser with 10-shelf *Compact Tower* (CT-L). As demand continued to grow, Hol-Mac decided to add a 6 kW *Phoenix 4020* fiber laser, also with a 10-shelf *Compact Tower*, in 2018. The move would provide a back-up for the 20-year-old *LVD Impuls laser* at Anel, add a second laser that could cut 4000 x 2000 mm sheets - especially helpful for larger Pac-Mac truck parts - and increase overall productivity at Plant 3.

“Piercing is tremendously faster, we see a 30 to 40 percent productivity increase.”

“As a 6 kW machine, the *Phoenix FL-4020* obviously cuts faster than our 4 kW unit,” says Holder. “In addition, the piercing is tremendously faster. On tests using 20 mm steel plate, we see a 30 to 40 percent productivity increase because the piercing is so much faster.”

The *Phoenix* uses a “pulse piercing” technique that starts with the nozzle almost touching the plate to obtain a reference voltage to calculate distance. The cutting head then moves to

piercing height, which could range from 2 to 8 mm depending on plate thickness. The *Phoenix* cutting head’s “zoom focus” technology sets a focal point to create a crater with a large enough diameter for the molten material to evacuate upward. The initial burst of power penetrates about halfway through the plate, followed by a series of pulses to complete the starter hole. The cutting head then moves closer to the plate and begins cutting. Throughout the entire process, zoom focus automatically optimises beam focus position and diameter to match plate thickness and nozzle-to-plate distance.

“Pulse piercing reliably produces starter holes while minimising the effects of spatter, extending time between cleaning cycles,” says Jerry Benning, an LVD sales engineer who has worked with Hol-Mac since 2006. “The 6 kW *Phoenix FL-4020* can pierce 25 mm steel in under three seconds. The entire pierce-to-cutting cycle initiation time is less than seven seconds.”

“Without the LVD lasers, we wouldn’t be able to compete in the markets we’re in today,” states Holder. “Our company growth, part quality and brand wouldn’t be as strong.”

Holder says that all of the company’s lasers deliver superior cut quality and accuracy. Unlike plasma, a laser cut part requires no post-cut edge preparation, so parts can go straight to welding. The precision of laser cutting also produces better fit-up, which decreases weld time because there are no gaps to fill. Precision also enables Hol-Mac’s design engineers to incorporate slot-and-tab technology so that assemblies become self-aligning and self-fixturing. Slot-and-tab design reduces tooling costs and also helps mistake-proof assembly.

“We sell craftsmanship, and customers value the fit-up and finish of our laser-cut bumpers,” says Holder. “We design our aftermarket parts to follow the contours of a vehicle, and we want a consistent gap all the way around. That’s not normal on a lot of bumpers, but it’s expected on the Hammerhead.”



Profile

Company Hol-Mac Corporation

Website www.hol-mac.com

Since 1963

Works with:

A572 Grade 50 steel, A514 (T-1) steel, aluminium and stainless

Industry:

Proprietary products for the solid waste and non-hazardous hauling industries and aftermarket bumpers for the automotive industry

Contract manufacturing, heavy custom fabrication and machining for OEM customers in the mining, construction, agricultural and railroad industries

Equipped with:

Phoenix FL-4020 6 kW with 10-shelf Compact Tower

Sirius 3015 4 kW CO₂ laser with 10-shelf Compact Tower

CADMAN®-L

10-shelf towers

Hol-Mac primarily uses A572 Grade 50 steel, as well as some A514 steel, aluminium and stainless. Hol-Mac cuts material from 2.59 mm to 25 mm and annually processes millions of tons of steel. To help manage the load, Hol-Mac has equipped the lasers at Plant 3 with *Compact Towers* for storage of raw material and finished parts and automated sheet loading and unloading capabilities.

The *Compact Towers* for the *Sirius* lasers can handle sheets up to 3050 x 1525 mm, and the *Compact Tower* for the *Phoenix FL-4020* stores sheets up to 4000 x 2000 mm, which is rare according to Holder, as tower construction needs to be especially robust to handle material weights up to 2994 kg.

“The flexibility of the *Compact Tower* works very well for our operation,” says Holder. “We can load the 10-shelf tower for the *Phoenix* with up to five different material grades or thicknesses and program the system via the *Touch-L* control. When it loads the steel from the tower into the machine, it knows what to cut.”

To further streamline cutting efficiency, Hol-Mac integrates *CADMAN-L* software with its ERP systems. “If parts for *Pac-Mac* and *Hammerhead* use the same material grade and thickness, we can nest them together. That improves plate utilisation and makes us more efficient,” says Holder. “Of course, the *Compact Towers* allow us to run lights-out when we need extra capacity. That helps our business grow without additional labor costs.”

