More than a decade later, an outsourcing decision remains a win-win for an Oregon fabricator.
Mechanical steel tubing is all around us. The office furniture and break room tables we sit at each day, the fences that keep our dogs contained and kids safe, the motor vehicles and machinery we operate – none would be possible without metal tubing. Whether square, round or rectangular, it appears at first glance to be simple stuff to work with, yet tube cutting and bending are complex processes, requiring high-tech equipment and a sound knowledge of metalworking principles to be successful.

P&A Metal Fab Inc. is one such expert. Among its many other fabricating services, the company has been cutting, bending, rolling, and punching tubing since 1978, when founder Phil Aronson first opened the doors of this now 80,000-sq.-ft. facility in Clackamas, Ore. Today, the company employs 90 people and offers sheet and tube processing, welding, powder coating and more.

In competition
Phil’s son, P&A president Dan Aronson, says tubing has always been a big part of the company’s business, but especially so since 2005, when one of its customers came to him with a proposal.

“They’d been making these parts internally until they were purchased by a holding company,” Aronson explains. “The new owners believed in focusing on core competencies, which for most OEMs are design, testing, assembly, sales and marketing, not building things like metal parts.”

The parts Aronson’s talking about are the bent and welded metal tubes used to make fitness equipment. He says high-volume work like this is ultra-competitive, but P&A gladly accepted the order and started tooling up to make hundreds of precision parts daily.
One of the first items on the requirements list was a tube laser cutting system. Without it, P&A would have to saw the treadmill rails, elliptical handles and other parts to length, then drill, punch and notch the various part features prior to bending. Aronson knew the deburring time alone would kill them, never mind the costly setups and potential quality problems.

**Laser for the job**

Aronson started kicking tires and eventually called Ancel Thompson, regional sales manager for BLM USA, the North American distributor for Italian machine builder BLM Group. Thompson evaluated P&A's anticipated part volumes, material thicknesses, part shapes and bend complexities and recommended a BLM Adige LT 712D Lasertube cutting system.

“Some tube laser machine builders start with a flat sheet laser and put a rotary table on it,” Thompson says. “This is fine for low-volume work, but for large quantities, you need a machine designed specifically for tube cutting. It’s like using a Chevy Tahoe to tow something, rather than sticking a trailer hitch on the family station wagon.”

With the LT 712D, Thompson explains, the operator loads a bundle of tubes in the back of the machine. Individual tubes are fed automatically into the processing area where the length is measured, corrections are made for any deviation in tube straightness or width, and the parts are laser cut and ejected, and then the machine is ready for the next operation. There’s no deburring, no need for drill bits or punch tooling, and the machine accepts feedback from downstream bending operations, simplifying and assuring part quality.

**Bending addition**

The machine proved so effective that Aronson ordered a second one in 2007.

“It was a win-win for us as well as our customer,” he says. “It allowed us to produce a variety of parts quickly and efficiently. And because the customer was able to leave their fabricating work to the experts, there was more time available to work on their products. I don’t have exact figures, but they more than doubled company sales and profitability within about two years’ time.”

Nor was P&A done. In 2010, Aronson and his team brought in another piece of BLM technology, a Dynam3 variable radius tube bender. According to BLM’s Thompson, the machine uses a camera to detect part features, such as holes or notches, and automatically rotates the part to the correct orientation. It can also find the weld seam, so as to avoid placing it in tension or compression

“It’s technology like this that enables contract manufacturers to move their business into a different direction and differentiate themselves from everybody else in the marketplace.”

*Ancel Thompson, regional sales manager, BLM USA*
The second piece of P&A’s tube processing puzzle, a Dynam3 variable radius tube bender from BLM.

President Dan Aronson visiting with one of the BLM Adige LT 712D Lasertube machine operators.

during a bend. The Dynam3 then bends the part, mindful of potential interference with the machine and its surroundings, and in P&A’s case, delivers it ready for welding or painting.

“Our newest system allows the tube laser and tube bender to communicate with one another, automatically adjusting machine parameters based on in-process measurements,” Thompson says. “It’s technology like this that enables contract manufacturers to move their business into a different direction and differentiate themselves from everybody else in the marketplace.”

Next steps
P&A has done just that. The company serves a variety of customers, including the medical and dental industries, gaming and industrial equipment, aftermarket motorcycle accessories and, of course, fitness equipment. It continues to invest in its people and technology, with P&A’s newest investment – a fully automated fiber laser and punch cell from Prima Power – which promises to open additional doors.

“Business is tough these days,” Aronson says. “There’s tremendous pressure to reduce part cost, especially in light of overseas competition and ever-increasing hard costs for materials, utilities, labor, etc. The best tool I’ve found to overcome these obstacles is to retain great employees and invest heavily in automation.”

And while some might look at a 10-year-old tube laser and wonder if it’s time for an upgrade, the equipment has cranked out parts by the tractor trailer-full over its lifetime, and continues to go strong.

“Looking back, the staff at BLM presented their offerings in such a knowledgeable and concise manner it was really an easy choice for us,” Aronson says. “It’s proven to be the right one.”

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BLM GROUP

P&A METAL FAB INC.

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