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BARBECUE GRILL MANUFACTURER LIGHTS FIRE UNDER PRODUCTIVITY WITH LIGHTS-OUT LASER CUTTING

City of Industry, CA

Robert H. Peterson Co. found the right ingredients for 24 hour-per-day cutting of stainless barbecue grill and gas log burner system parts - a CINCINNATI Incorporated linear-motor-driven CL-707 laser cutter with an automated material handling system on the side.

The City of Industry, CA manufacturer of high-end stainless barbecue grills and fireplace products is a pioneer in unmanned laser cutting, confidently allowing the material handling system to feed the CL-707 laser all night so it can deliver parts with quality edges and surface finish. Best of all, the company doesn't have to pay someone to watch over the process.

A full range of CINCINNATI cutting and forming machinery keeps production sizzling for maker of high-end stainless steel grills.

"We were at the forefront of lights-out laser cutting, and have done it successfully for the past two years with no major problems," says Jon Bridgwater, Robert H. Peterson Co. Senior Vice President. "We can run the laser all night without hiring a second or third shift, and without buying an additional laser. The laser's 20 hours per day of uptime is mostly at night on its own."

Peterson Co.'s CL-707 was one of the first CINCINNATI Incorporated lasers fitted with an automated material handling system. The laser also has been updated with CINCINNATI Incorporated's new user-friendly programming and nesting software, which provides simple at-machine programming while maximizing sheet usage. After laser cutting, parts are delivered to CINCINNATI Incorporated Autoform or Proform press brakes for accurate bending routines to ensure precise fits for in-house assembly line.

Besides lights-out production, the laser provides the Peterson Co. ultimate flexibility for quick prototyping, sampling and design changes. "We previously were a hard tooling shop, which limited the amount of design change due to high tooling costs and lead time," says Bryan Auslam, Peterson Co. plant manager. "We strive for continuous product improvement, and the laser allows us to implement any changes quickly and easily."

Making Grills that Thrill

Anyone who's ever flipped a burger over flame hungers to have one of Peterson Co.'s sleek Fire Magic stainless "sports car" grills. The company purchased the grill business from Whittier Steel in 1982. Auslam, that business unit's "master cook," came with the acquisition, bringing with him a vintage CINCINNATI Incorporated shear manufactured in 1963. The forty-year-old, 10-ft shear still reliably cuts parts for the Peterson Co. today. Besides the shear and laser, the company also has five CINCINNATI Incorporated press brakes and an OBS press with die cushion which is used for blanking and drawing work.

The Peterson Co. also produces fireplace gas log systems and makes its own ceramic logs for that product line. The company prides itself on doing everything in-house, from metal fabrication to final assembly, packaging and shipping in its facility.

Laser Cookin' Lights Out

Though Peterson Co. staffs its facility for only one shift, it wanted to keep production rolling on through the night. After researching various technologies, it decided that laser cutting with automated material handling was the way to go. Auslam compared lasers

from various manufactures, and found that the CL-707 with CINCINNATI Incorporated designed and built high-speed linear motor drives "blew everybody else away. It provided everything we wanted in a laser cutter - superior speed, surface finish, edge quality and flexibility," said Auslam.

Plant Manager Bryan Auslam (left) and Senior Vice President John Bridgewater

The CL-707 with 5 x 10 ft. dual pallets was purchased in 1998. While not originally equipped with a material handling system, CINCINNATI Incorporated later added a two-shelf automated system to meet the company's goal of lights-out production. Peterson Co. uses the shelves for storage - one for sheet, the other for finished cuts. "We even added a digital camera which allows us to monitor the laser from home via the Internet," says Auslam.

Laser Delivers Finish-Critical Parts, Design Flexibility

Peterson Co. cuts the majority of its grills' stainless sheet components on the CL-707. "Surface finish is critical for these top-of-the-line grills," says Auslam. Most components are cut from #4 stainless (5 x 10 ft. sheet) which has a protective film applied by the steel supplier to keep it scratch-free before delivery to the customer. Using nitrogen assist gas, the laser cuts with the film on the material, yielding a super-clean edge with no "blue-edging" discoloration. "We rarely have to retouch parts," says Auslam.

The laser uses a 1350-watt resonator that, according to Auslam, cuts like the "big" ones. "It's amazing what it can cut - and how fast," says Auslam. "Plus the quick linear motor drives are as accurate now as the day we bought it." CINCINNATI Incorporated now offers a choice between 3300-watt diffusion-cooled resonator or 4000-watt fast axial flow resonator for its high-speed CL-707.

Peterson Co. added CINCINNATI Incorporated's new laser programming and nesting software to allow its operators to program directly at the machine. "The nesting software lets us add small parts to the nest during overnight production, parts we might normally produce during the day on a press," says Auslam. "We call those 'bonus parts' which maximize material usage."

Laser versatility and programming ease allow Peterson Co. to make minor changes and adjustments to fine tune existing designs, according to Bridgwater. The company shoots to introduce two to four new grill products each year, and the laser is key to fast prototyping. "Programming the laser is so easy that we can create a part design now and one hour later we can have it cut," says Bridgwater. "Add another hour or so for bending with CINCINNATI Incorporated's Proform or Autoform, and we have an assembly-ready part."

Peterson Co.'s first CINCINNATI Incorporated purchase was an Autoform with six-axis backgage in 1994, which is still running strong today. "We essentially were a bottom-bending shop that didn't air bend because it was difficult to control the angle," says Auslam. "The Autoform changed the way we did things. We even went to CINCINNATI Incorporated's Tech Center in 1994 and learned a lot about forming while there."

Now Peterson Co. air bends most everything to tight accuracy using European-style tooling for easy interchange between the press brakes. "Our parts have to fit together precisely, as most components are riveted together on an assembly line," explains Auslam. "The rivet holes have to line up. If they are slightly misaligned, the laser allows us quickly re-program and re-locate them."

Having the full spectrum of CINCINNATI Incorporated equipment in its shop - laser, press brakes, shear and OBS press, Auslam has come to realize the extent to which CINCINNATI Incorporated focuses on providing good customer service. "CINCINNATI Incorporated makes it a priority to get someone here posthaste, even if all the local guys are tied up and they have to fly in someone," says Auslam. "This is especially important for shops like ours with only one cutting laser. If it goes down, we're not cutting steel and we're not making product."

"We owe it to our owner to get the best deal on the right piece of equipment," says Auslam, "and we got it all with CINCINNATI Incorporated - reliability, accuracy, uptime and service. The laser has changed our world."