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### Boosting "green light time"

*A laser/punch combination system enables this sheet metal fabricator to use the best tool for the job and increase production*

#### Bob Kolcz

Resh Inc., Franklin, MA, began operations in 1988 with three partner/owners, a few pieces of used equipment, and a commitment to a production philosophy of "Green Light Time"-the time the fabrication machines are actually producing parts. Although implementing this philosophy was initially difficult due to the company's older-technology equipment, the three owners-Scott Langley, president; Robert Saltzberg, treasurer; and Emile Charette, manufacturing engineer-never lost sight of their company's goals or its niche in the marketplace. "What sets us apart is our mode of operation," explains Langley. "Our products are four feet and under. We are known for quality work and quick turnarounds. And what allows us to provide these quick turnarounds is green light time."



*From left to right Scott Langley, president; John Chaves, sales & engineering; and Emile Charette, manufacturing engineer at Resh Inc.*

Today, Resh has evolved into a respected player in the New England sheet metal fabrication industry with 25 employees in a modern 30,000-square-foot facility, whose mission is to provide precision metal fabrications, mechanical assemblies, and services to customers on time, at a competitive cost. Through the years the management team has firmly held to the conviction that continually upgrading the company's equipment is crucial for its future success and profitability.

#### Turret, laser...or something else

Several years ago the company began a search, which took two years, to upgrade two turret punch presses-one with a loader and the other a standalone. It soon became clear that turret punch presses alone would not fill the company's needs. "It would have cost us \$250,000 just to upgrade our tooling," says Langley. After much research, the decision was made to purchase the LPE laser/punch combination flexible manufacturing cell from Finn-Power (Schaumburg, IL), which was installed in July 2004.

This system can perform laser cutting, punching, nibbling, upforming, marking, tapping, bending, sorting, and stacking-all unattended, all in a single setup. Optimum use of the Finn-Power LPE means that a fabricator can use the turret punch press where it is easier or faster and the laser where it is most effective. With this system they can look at the parts, the materials, the part design elements, the time, and the overall cost of the parts to determine the optimum process.



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"From the beginning, we could run some jobs on the LPE in the time it took to tool and setup the older machines," reflects Saltzberg. "The LPE puts us in a new production capacity, especially when running quick-turn prototype jobs. When we run a 40-hour shift, we're getting 39 hours of production from the LPE. We're able to utilize entire 4- x 8-foot sheets and are getting full value from our material with almost no scrap."

The benefits that Resh management saw in the laser system included:

- Reduction of piece part costs-faster punching time, reduction in direct labor assigned to set up and punching and number of manual operations.
- Utilization of full sheets while eliminating the need to shear to size blanks being processed.
- Increased machine utilization-with the loading system, unmanned operation can be achieved from load, punch, upform, laser cut, and unload, and sorting of parts in one machine.

"The Finn-Power LPE has dramatically lowered our labor costs," continues Saltzberg. "In addition to its speed and ability to produce high-quality parts, once it is set up, the LPE runs by itself. Since secondary operations, such as deburring, have been nearly eliminated, fewer people are needed to produce a high-quality part."

The punching part of the system consists of a 22-ton turret punch press that combines electrical servo technology with mechanical power transmission. The net result is a system with flexibility, accuracy, and excellent forming capabilities-16 mm with no die interference; servo system for precise accuracy; low energy consumption; auto-index, Multi-Tool programmable clamp settings, and brush tables.



*Serving its diverse customer base, Resh uses the laser and turret set up to automatically go from one job to the next.*

A TRIAGON 2.5kW CO2 laser with 25 bar assist gas pressure allows for cutting materials such as stainless steel and aluminum with optimum speed and edge quality.

Integration of the laser and the punch is accomplished with the part piece flowing from the turret punch press to the laser without the release of the clamps. The flow of material is from the load side to the unload side, eliminating the time-consuming method of loading and unloading from the same side.

#### 24/7 lights out production

And how has the new technology been accepted on the shop floor? Charette is the partner that runs engineering for Resh. He programs, sets up, and operates the system, and he believes that it has more than just replaced the two older turret punch presses. "I've been in this business for 20 years," reflects Charette. "Our LPE now has over 4,000 hours of operating time. I believe that it is one of the best machines that I've ever run. We have run periods of 24/7 on the LPE since the first week it was installed. We just load it, turn it on, and go home."

Resh has a diverse customer base including medical, telecommunications, decorations, motorcycles, and so on. Production runs can vary from one-piece prototypes to 1,000 or more units on stainless, aluminum, and steel material from 0.03 in. to 0.12 in. With the three auto-index stations (one dedicated to just countersinking) and two 24-laser Multi-Tools, setup times have been dramatically reduced. Charette says, "With the laser and our turret setup, we automatically go from one job to the next. In the past we would spend up to ½ hour on each setup. If you do 10 jobs a day-just do the math to appreciate the time savings. In addition, we can tap, upform, extrude, and countersink on the LPE and only handle the part once. The time, labor, and green light time savings are huge."

#### Increased productivity & quality service

"What used to take us a month to produce on our old machines now takes about two to three weeks," Charette continues. "By the 20th of each month, all orders are filled and we have additional capacity. This has eased anxiety of meeting production quotas by the end of each month."

According to Langley, the laser system is a perfect machine for today's market. "The current market environment calls for smaller runs, quicker turns, and more complex contoured parts. In some applications, it may make more sense to laser cut...in others punching is more economical. When you add the ability to upform, tap, make extrusions, and countersink, combination machines are definitely the way to go," explains Langley. "We've increased our sales about 30 percent over the last 12 months with the LPE. This is attributable to its ability to increase our green light time."

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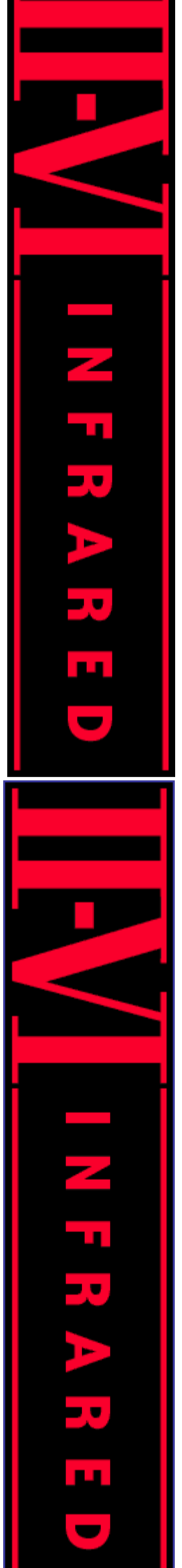
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