

THE CORNER SHOP: JOINING TECHNOLOGIES INC.

East Granby-Based Company Banks On Technology To Help Airlines Struggling With Worn Parts

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Scott Boynton, left, and Scott Poeppel work on the robot-controlled laser cadding system at Joining Technologies on Tuesday. (RICK HARTFORD / HARTFORD COURANT / September 30, 2008)

EAST GRANBY - Dave Hudson, president of Joining Technologies Inc., hopes the company's most recent purchase — an \$800,000, 8-foot-tall laser — will "tidy up" some overstuffed warehouses around the country.

For years, the airline industry has been warehousing "lots of expensive aircraft parts," Hudson said, because the technology to repair them didn't exist. The industry's only option — typically an expensive one — has been to replace the part with a brand-new assembly, even if it's only slightly worn.

However, recent advances in micro-precision welding techniques, along with the Federal Aviation Administration's approval for certain specific repairs, could help empty some of those warehouses.

So companies like Joining Technologies that specialize in precision welding are eager to acquire the latest equipment to take advantage of the new regulations.

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Michael Francoeur, the company's founder and chief executive, moved his electron beam welding equipment out of his garage to a small shop in [Cheshire](#) in 1992, launching Joining Technologies. The company originally specialized in welding medical devices, but in recent years it has branched out into aerospace repair and parts manufacture. In 2000, it moved to its present 20,000-square-foot location.

"Medical and aerospace materials are similar," Hudson explained. "In both areas, you're working with stainless steels and titanium."

Today, the company's electron beam welders, gas tungsten arc welders and lasers are making critical welds on everything from jet engines to laparoscopic scalpels to the trigger mechanisms on firearms.

The firm's most recent purchase, a new Laser Applied Powder workstation, "is going to allow us to offer repairs on some very expensive airplane parts where repairs did not exist before," Hudson said.

The workstation's ability to focus an intense laser beam means that only the targeted area gets hot during the welding process, unlike some other welding processes in which heat can spread to the surrounding metal, causing the entire part to warp.

That tendency is why the FAA, in previous years, would not allow the repair of critical aerospace parts, said Jim Edwards, the company's quality assurance coordinator.

In the last two years, the company's workforce has increased from 30 to 50 as it has added

new welding equipment and services, including metallurgical strength and pressure testing.

"Revenue has grown about 35 percent per year," said Hudson, who would not disclose financial information about the privately owned company. The firm has also added six engineers as it expands into manufacturing of some aerospace parts.

"The airlines are under a lot of pressure to reuse existing worn parts rather than buying new," Hudson said. "It's helping our business, and it's why we just made a very large investment of about \$800,000 in a new laser for which we don't have a lot of work yet."

On a recent morning, Scott Boynton, a process engineer, was seated on the floor making some final adjustments to the neon-blue, robotically controlled, precision laser.

"I'm teaching it where we want it to aim," Boynton said.

Even though the laser is not fully employed yet, Hudson is not worried.

The new laser "is going to allow us to offer repairs to the likes of Pratt & Whitney, Rolls Royce and Mitsubishi. ... We're in Pratt & Whitney's backyard," Hudson said.

The company hopes eventually it will use its laser technology to serve the car-racing industry, too.

"We're looking at refurbishing some high-value parts, like camshafts, for NASCAR," Hudson said.