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TurboCombustor flying high

BYLINE: BILL CHURCH BJ contributor

Where did Martin County's eighth largest employer get its start? If you guessed Gas City, Ind., you are either an expert on airplane engines or a dyed-in-the-wool Hoosier.

TurboCombustor Technology started in 1951 as Hoosier Metal Spinners, which became Hoosier Metal Fabricators before moving to Stuart in 1967 with just 20 employees and \$3 million to \$4 million in revenues.

"Their main customer then was Pratt & Whitney in West Palm Beach, so they decided to be located in the north in the winter when we can move to Florida near our key client," said Stuart Shay, the company's co-president with Louis Surette.

The company now employs more than 350 local residents in its 109,000-square-foot facility on Southeast Commerce Avenue, and in a smaller plant on Southeast Slater Street, both in Stuart.

TurboCombustor manufactures combustors and complex sheet-metal fabrications for major aircraft engine manufacturers such as General Electric, Rolls-Royce, Pratt & Whitney, Pratt & Whitney Canada, Volvo, Honeywell, Hamilton Sundstrand and the U.S. government.

Revenues grew to \$50 million in 2006.

A combustor for an aircraft's gas turbine engine acts like a carburetor in an automobile engine. Both mix air and fuel and, with a spark, generate combustion. In the gas turbine engine, the high temperature air exiting the combustor causes the turbine shaft to rotate, generating thrust, which pushes the aircraft forward.

The company also makes complex sheet metal fabrications, forgings and castings, which are processed into final assembly. Employees drill holes with lasers to provide cooling air flow and thermal barrier coating to protect their parts, which are in the hottest part of the engine with temperatures in the 2,000-2,200 degrees Fahrenheit range. They also measure the air flow to verify adequate relative cooling.

"The technology is totally different today than it was when the company moved to Stuart, but it's still the same principal -- take

flat sheet metal, make it round, weld it," Shay said. "A major development, laser hole drilling, came in the 1990s, along with higher-performance aircraft engines with increased heat."

TurboCombuster doesn't design parts. It works from customer drawings and conducts "concurrent engineering" with the customers' in-house staffs. Shay said his customers are his major competitors, since they could make the parts in-house.

The workload would be too heavy, however, so the trend is toward even more outsourcing by the original equipment manufacturers.

The company faces market pressures from the steadily rising cost of the nickel, cobalt and titanium-based alloys used in manufacturing.

TURBO 32

"Our challenge is to find how we can be competitive," Shay explains. "We're investing in capital equipment to make parts faster. We need to increase capacity and drop our costs."

TurboCombuster Technology underwent an ownership change in 2004 when CAI Funds and AeroEquity bought the company from Chromalloy Gas Turbine Corp., which had owned the company since 1980.

The sale was good for TurboCombuster, according to Shay. Since Chromalloy's business was 80 percent repair, they were competing with General Electric, which just happens to be TurboCombuster's major customer.

Chromalloy was also manufacturing some GE parts. Understandably, GE was in no mood to give TurboCombuster any more business while Chromalloy as its parent company.

On another front, Chromalloy had engaged in a long legal battle with Pratt & Whitney, costing TurboCombuster that major piece of business. When the sale was completed in 2004, TurboCombuster quickly made clear to Pratt & Whitney executives that it wanted to renew relationships, and that process is now successfully underway.

"They present a major growth opportunity," Shay said.

Another benefit of the sale is the designation of TCT as a small business rather than as a division of a large corporation, which helps when bidding for government contracts.

Shay, 66, was a Chromalloy veteran, joining that company in 1981 after 18 years at aerospace company Hamilton Sundstrand. A mechanical engineer by training, Shay moved into sales and marketing, assuming responsibility for TurboCombuster and four other Chromalloy divisions. As TurboCombuster grew, Shay concentrated on that division, moving here in 1986.

In 2000, Shay and Louis Surette were named co-general managers of the division and then co-presidents of the new company in 2004 when CAI and AeroEquity took over.

Surette, 58, joined Chromalloy in 1997 as vice president and chief financial officer of the division from the Stuart operations of another aerospace giant, Northrup Grumman, where he spent 29 years, mostly in Boston.

Both men report to a four-person board of directors, with one from each fund and two independent members.

Common business wisdom says a co-president structure has little chance of success, but Shay and Surette say it works well for them.

"Our success is based on mutual respect and trust," Shay said. "We bring different skill sets and we don't care who gets credit. We don't agree on everything and we have robust discussions, but we always end up with a decision that is best for the business."

Surette agrees, especially as to the mutual respect, balanced set of skills and heated debates.

"In the long run, our system provides a real advantage by bringing different points of view to come to a conclusion," Surette said. "To head off another problem which can occur with co-leaders, we decided from the beginning against splitting up the duties. Since we share the entire responsibility, we don't have various office factions working against each other."

Shay and Surette recently hired 25-year General Electric veteran Les Saunders as vice president of operations to run day-to-day matters. Saunders is also overseeing the integration of two newly acquired companies in Cincinnati and Budapest into the TurboCombuster family.

With the current management team, the co-presidents are optimistic about TurboCombuster's prospects. The company has a good portfolio of products and a growing backlog thanks to new long term agreements with customers, Surette said. It also has a new financing to add machines, equipment and space.

Shay said he expects the company to hire more workers, raising total employment above 400 over the next three to four years while growing revenues to the \$70 million to \$80 million range.

Last year, the company bought Treasure Coast Machine on Slater Street, not far from TurboCombuster's Commerce Street main plant. The machine company was started by an ex-TurboCombuster employee and does turning and milling of engine parts, castings and forgings. It employs 30 people in a 10,000-square-foot facility.

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