

Reaching for the Sky

THE MICHIGAN AEROSPACE MANUFACTURERS ASSOCIATION IS HOPING TO REDEPLOY THE STATE'S EXISTING AUTOMOTIVE TECHNOLOGY INTO AEROSPACE PRODUCTION.

BY JOHN SITKIEWICZ PHOTO BY BLAKE DISCHER

For serious business leaders in Michigan, bringing business back to the Great Lakes State is, as they say, priority one. With the automotive manufacturing industry still struggling with the impact of high legacy costs, rising health-care needs, and globalization, the potential to carve out a niche in the aerospace industry has never been greater. In the past, Michigan manufacturers often pushed aerospace production to the side, as they strived to meet the needs of a once-booming automotive industry. That is no longer the case.

Despite reaping the benefits of unprecedented growth in commercial, military, and business aviation, the aerospace manufacturing industry is experiencing major pitfalls—most notably, supply chain constraints that contribute to delays in production. One-upmanship between aviation industry giants Airbus and Boeing to determine which manufacturer can produce the preferred transoceanic passenger cruiser is contributing greatly to a parts shortage crunch. In fact, both aircraft manufacturers have announced delays in the delivery of their next-generation commercial passenger planes.

“Michigan’s manufacturing base [has] many of the most sophisticated and technologically advanced facilities in the nation,” says Gavin Brown, president of the newly formed Michigan Aerospace Manufacturers Association in Ada, Mich.

MAMA’s mission is “to bring business back to our members,” says vice-president Craig Wolff. The effort includes simplifying the way members access bids, attain AS9100 certification—the aerospace industry’s governing quality standard—and establishing MAMA as a single-voice



QUALITY PRECISION Progressive Stamping Inc. in Royal Oak has earned high marks in the automotive industry for quality. The company plans to translate that track record into the aerospace industry.

for the state’s aerospace manufacturing community. Rising demand for privately owned ultra-light jets like Eclipse Aviation’s Eclipse 500 offers another opportunity for growth. The following companies represent a sampling of MAMA members expanding into the global aerospace industry.

Imperial Metal Products Co.

Rather than waiting for more aerospace clients, John Morelli, general manager of Imperial Metal Products Co. in Grand Rapids, is taking a more aggressive approach. “We’re pursuing major aerospace industry players,” he says. IMP produces roughly 15

million precision parts a year, and 10 percent of the company’s annual dollar volume is tied to aerospace production, including special fasteners used in hydraulic and fuel applications. Morelli wants to increase that amount substantially.

He’s spearheading a simultaneous strategy of marketing, investing, and earning an AS9100 certification. He hopes AS9100 can be accomplished in no more than a year. Around 75 percent of the company’s manufacturing capacity is earmarked for the automotive industry, but given the turbulence experienced by automotive manufacturers in recent years,

Morelli sees aerospace as the most logical way to diversify.

Seeing the future of manufacturing incorporating more “exotic equipment,” Morelli says new training programs for the company’s 60 employees, along with continued investment in new equipment, will yield future dividends. “We’ve already got a history of supplying aerospace—and [proven] engineering experience,” he says. The company’s goal is to devote 50 percent of its manufacturing capability to the aerospace sector within the next five years.

Hydrodynamics Technologies, Inc.

The importance of developing a niche in business can’t be overstated. Despite high-end machinery and intricate processes often attributed to Michigan manufacturers, perceptions that the sector is simply replicating itself at the expense of embracing innovative techniques are hard to escape.

Pontiac’s Hydrodynamics Technologies Inc. doesn’t worry about such observations. The company says its patented technique of integrating hydroforming—tubular steel is pressed into molds via high-pressure fluid—will be attractive to the aerospace industry. “[Hydroforming] reduces weight, material overlap, saves cost, and reduces process time,” says Hydrodynamics vice president Kevin Webb.

The company’s 35 employees supply tubular components for the automotive appliance, and recreation industries, and Webb foresees a seamless transition to aerospace production. “We’ve got a tremendous amount of aerospace manufacturing capacity [in the planning stages],” he says. Last year, company

revenue reached \$7 million.

Though heavily entrenched in the automotive sector, including producing specialized parts for Chevrolet, Dodge, Ford, Toyota, and Jeep, Webb says his company plans to turn out engine and structural components used in landing gear and seatback frames. “We’re trying to diversify,” he says. “We’d like to increase our aerospace capability within six months.” The company also plans to dedicate as much as 50 percent of its manufacturing capacity to aerospace production.

Progressive Stamping, Inc.

Though it’s still largely on the outside looking in, Progressive Stamping Inc. in Royal Oak is eager to produce aircraft parts. “Our company places a high priority on continuous improvement,” says general manager Doug Shantz. “Competitors have a [hard] time keeping pace with [automotive] manufacturing improvements we’ve implemented over the last several years.”

It’s those competitors who cause Shantz to remain cautious when describing specific plans to boost aerospace production. The supplier, which three years ago achieved an extraordinary part-defect rate of under 2 parts per million for 165 million pieces produced, sees opportunities in “fasteners and other hardware” for aerospace industry customers. Last year, Progressive Stamping generated \$18 million in revenue.

Though his company is “virtually all automotive,” Shantz says that his attempt to expand the company’s scope is a necessity, given manufacturers’ present need to remain versatile. “We don’t see ourselves ever leaving the automotive industry,” he says. “Many

of the products we’re working on for the automotive industry can be manufactured utilizing much of the same equipment used to support the aerospace industry.”

Topcraft Metal Products

Topcraft Metal Products owner and CEO Kelly Weener says diversifying into the aerospace sector won’t be a “hard bridge to cross.” The Hudsonville-based Tier 2 automotive supplier devotes 12 percent of its annual production to the furniture and appliance industries, and is ready to attract new aerospace work.

Weener is confident that TMP’s 45 employees are up to the task. “It won’t be a huge learning curve,” he says. “There [are] similarities in engineering, safety requirements, and quality requirements between automotive and aerospace production.”

Over the next five years, aerospace parts will account for up to 25 percent of the company’s annual output, he says. The company’s expertise in producing automotive fittings, bushings, and mounting components can also be utilized on aerospace frames. The company produces a variety of antilock brakes, air bags, and emergency fuel systems.

Weener says TMP plans to re-engineer an array of machines used in the production of automotive components, such as fixed-head stock and Swiss-style lathes. Last year, his company generated \$5.5 million in revenue. “[We’re] looking to bridge the gap between knowledge required, processing requirements, and more technical aspects of processing engineering quality [for aerospace manufacturing],” he says. **db**