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## The Tiger

With financial backing from Taiwan, the first new airplanes are due this fall. Will they prove a hard sell against Cirrus?

Every so often a company or consortium is formed with the avowed purpose of reviving an airplane that has long been out of production. These schemes usually fail, often because the investors and managers—however experienced—seem unable to realistically estimate start-up and production costs.

The Tiger, a sporty four-place airplane distinguished by a sliding canopy and the fastest cruise in its class, has had four parent companies in its checkered history. Now, a fifth one, called Tiger Aircraft LLC, has a brand new factory in Martinsburg, West Virginia, ready to bring back the Tiger yet again.



**The Tiger was conceived as a relatively fast, sporty cruiser. It never claimed more than a niche market share.**

In a marketplace whose graveyard is well-stocked with the bones of aviation entrepreneurs, what are the chances of a successful Tiger revival? Here's a report on how Tiger LLC hopes to beat the odds.

### Birth of a Cat

The Tiger evolved from an original design by master dreamer, Jim Bede. Back in the 1960s, Bede burst onto the aviation scene with the first of his many tantalizing promises: A two-place production airplane with skin that would be bonded instead of riveted, that would sell for about \$2500. This was a ridiculously low figure even in those times, but Bede demonstrated his trademark flair for making people believe what they wanted to believe and stock was sold to create the Bede Aircraft factory in Cleveland, Ohio. It became evident that Bede's ability to turn dreams into reality was seriously flawed and he was ejected from the company.

The company was reorganized into American Aviation, under the leadership of a lawyer named Russ Meyer, who later went on to become CEO of Cessna and who became instrumental in reforming aircraft liability laws. In 1969, American Aviation produced a highly modified version of Bede's design called the AA-1 Yankee. The little airplane, with its laminar flow wing, turned out to be too hot for fledgling flyers and more than a few Yankees were bent in landing accidents.

The Yankee's wing was changed and the airplane was renamed the Trainer. Later versions were dubbed the Tr2, Lynx and T-Cat. All had the Lycoming O-235, with power ranging from 108 to 115 HP. A four-place 150 HP variant called the Traveler made its debut in 1972.

American Aviation was then acquired by Grumman Aerospace, the company was renamed Grumman American, and production was relocated to Savannah, Georgia. The new chief engineer was Roy LoPresti, who practiced his drag-reducing surgery on the Traveler, redesigning the cowling and tail.

In addition, he strengthened the belly section to gain an extra 200 pounds of gross weight and put more muscle up front with a 180 HP engine. The result was the Tiger, which made its debut in 1975.

In 1978, the Tiger's parent company briefly became Gulfstream American, when Grumman sold its corporate and lightplane lines to one Allen Paulson. A year later, the Tiger was orphaned when Paulson, whose sole interest lay in the bizjet market, pulled the plug on lightplane production. In light of what subsequently happened to the general aviation market, it's difficult to fault Paulson's decision. In 1978, the production of general aviation aircraft in the U.S. was at an all-time high of 17,811. Three years later, that figure plunged by almost one-half and by 1986, the manufacturers were languishing at a miserable 10 percent of their heyday sales. The only companies prospering were the ones manufacturing highly profitable turbine aircraft.

#### **Return of the Tiger, Part 1**

A decade after the Tiger had gone out of production, a company called American General Aircraft Corporation (AGAC) was formed to produce the airplane in Greenville, Mississippi. But, to its great cost, AGAC took the giant step of re-certifying the airplane in order to improve it.

Changes included a 28-volt electrical system, a modular metal instrument panel with an all-transducer engine cluster, a throttle quadrant, better fresh air and heating systems, more comfortable seating, a split nose bowl, dual landing lights and a faired-in beacon atop the rudder.

The Model AG5B Tiger initially listed for \$81,450. However, the two-year time and money drain in re-engineering and re-certifying the airplane set in motion a fatal spiral. The company found itself under-financed and had to raise the price of the airplane to bring in more funds.

This killed demand, and within five years AGAC was bankrupt. A total of 178 AGAC Tigers were produced, the last ones listing for about \$120,000 base price, \$143,000 fully equipped. Toward the end of the production run, these aircraft seemed to be of high quality, with owners reporting few sqawks.

We are left to wonder whether the project would have survived if AGAC had been content to reproduce the Tiger in its original form. And we may be about to find out, since the new company, Tiger LLC, plans to take up exactly—and we do mean exactly—where AGAC left off.

The latest episode in the life of the Tiger comes to us courtesy of the Taiwanese government, which acted as liaison between Tong Lung Metal Industries—the world's largest manufacturer of door hardware and lock sets—and West Virginia Sen. John D. Rockefeller IV.

TLM was interested in making a small fortune in aviation (starting, of course, with a large one) and Rockefeller had Martinsburg in mind. TLM committed \$15 million to the project. How much West Virginia committed is not known, but we were told that it was less than "the customary \$50,000 per job created."

At any rate, ground was broken in April, 1998, at which time we interviewed Bob Crowley, CEO of TLM Aerospace and former executive with AGAC. Crowley told us that the TLM production schedule for the first year called for 65 airplanes, versus the ambitious 300 units planned by the ill-fated AGAC.



**Tiger LLC's new plant in Martinsburg, WV.**

The plant was completed last January, but Tong Lung Metal has reduced its commitment and a successor entity, Tiger Aircraft LLC, has been funded by a consortium of U.S. and Taiwanese companies. Crowley remains as CEO and John Witcher, who was AGAC president during their final months, returns in that capacity.

Other ex-AGAC employees have been brought in, including a stalwart named Harry Eckert, who has worked for every Tiger manufacturer, starting with American Aviation in 1968. The jigs and fixtures used by AGAC have also been refurbished and will be put to work building new Tigers.

#### **A New Look**

The latest Tiger will have a new paint scheme, but otherwise will be identical to the AGAC version. Tiger LLC's Witcher told us the company was quite deliberate about not making any

serious changes to the airplane. New avionics, yes, but no speed enhancements, engine changes or even the electronic engine controls the other manufacturers seem to be leaning towards.

Production is slated to begin in July, with the first units available this fall. Witcher told us that he learned some critical lessons in the final days of AGAC production in Mississippi. Among them is that it's important that new aircraft be delivered with minimum squawks and to do otherwise will erode already thin profit margins. (Cessna is learning this in spades, with a flurry of ADs and service bulletins for its new airplanes.)

Key to both the airplane's performance and economics is the way it's built. Unlike most metal aircraft, whose skins are pimped with multitudes of drag-producing rivets, Tiger skins are attached by a bonding process that results in a clean look, better aerodynamics, and arguably greater strength.

The sheet metal passes through a series of nine tanks, where it is etched by sulfuric acid and then washed in de-ionized water. Two layers of skin are bonded with epoxy adhesive and cured in an oven at 250 degrees F. They are then exposed to a solvent as a test of adhesive strength. The cabin is made of a honeycomb sandwich for strength and soundproofing.

Is an airplane that's "glued together" structurally sound? Some of the earlier Tigers had delamination problems, but the adhesive compound was changed and we are told that there was "only one" such occurrence in an AGAC Tiger. When the time comes to repaint a Tiger in the field, special techniques must be used to preserve the integrity of the bond.

The bonded sections—the wings, fuselage, and empennage—will be fabricated by an outside vendor, probably an Arkansas-based firm called Chem-Fab, which did this work for AGAC.

The Martinsburg factory will manufacture most of the composite parts and will assemble and paint the airplanes in a spanking new state-of-the-art facility in Martinsburg. In showing us around the plant recently, Witcher explained that to keep the company profitable, the new Tigers will have to be produced efficiently with as few people as possible. We're not sure how many people will be employed at Tiger LLC but the plant is quite small by Cessna and even Mooney standards and, as a result, Witcher believes it can be profitable at the relatively low volume the Tiger niche is likely to find.

The production line has been carefully designed to flow parts and processes from the main assembly area's outer perimeter to a semicircular line in the center of the plant. In principle, methods similar to the Japanese "just-in-time" production model will be used. When we visited, Tiger was staffing up its technical workforce and was busy digitizing the airplane's original drawings.

Tiger Aircraft is planning on turning out four units by the end of the year and 70 in 2001. The price hasn't been firmed up yet but is expected to be about \$214,000. Standard equipment will include dual Garmin GNS 430 mapcomms, an S-TEC System 30 autopilot, a PS Engineering audio panel and the customer's choice of full-leather or leather-trimmed seats. Sales will be handled through dealers, including many of those who sold the AGAC version.

#### **Tough Sell?**

All things considered, this is probably as good a time as any to get into the airplane business, with a strong economy and a rekindling of the market by Cessna's return to lightplane manufacturing. On the other hand, even in aviation's heyday, the Grumman Tiger was a very modest contender.

Sales were well under 200 units a year, representing about one-third of the production of the competing Archer II and one-tenth of the ubiquitous Skyhawk, despite the fact that the Tiger handily outperformed both of these rivals. If those ratios hold, at least against Cessna, Tiger LLC can realistically expect to sell around 100 airplanes a year.

The new Tiger will have additional contenders to deal with, however. Its toughest competition will be the Cirrus SR20, a composite airplane that offers better

performance at close to or perhaps a bit more than the Tiger's expected asking price. At a higher price point, Lancair's Columbia 300 certainly can't be ruled out. Tiger LLC's Witcher told us the company sees its airplane as unique in the market. The term "cult appeal" may be a bit strong but that's the idea. Witcher believes a potential Tiger buyer won't be interested in anything else, including a like-priced Cirrus. Nor is the market for new Tigers necessarily among pilots who already own one. Then again, didn't these guys buy a Tiger for the same reason new owners might?

We asked some current Tiger owners about this, including Stewart Wilson, who recently sold his 1975 Tiger and bought a Cougar twin. He told us a new Tiger in the \$214,000 range holds no interest.

"You could buy an average Tiger, add leather interior, new engine, paint and advanced avionics, and still be well below half of \$214,000," he explained. And yes, the Cirrus, with its state-of-the-art composite design would be a strong contender in his view. Last, Wilson said he would worry about the viability of a new company in the current crowded market, given the Tiger's snake-bit history.

Jeff Baker bought a 1991 AGAC Tiger a year ago. "Why shell out that kind of money for a new Tiger when you can get a good used one, and even add the kind of equipment the new ones will have, for far less? I can't imagine any existing Tiger owners doing that. I'd like the new company to succeed because I want to have a continuous supply of parts, but if I were in the market for a new airplane and had that kind of money, how could I not buy an SR20?"

The management at Tiger Aircraft acknowledges that their primary market won't be owners of older Tigers. They feel that a good prospect is someone who has recently learned to fly, will be buying a first airplane and has the financial resources to afford the price tag.

The question is, given what may soon be a glutted market, will there be enough of them to constitute a viable market? Tiger LLC and the Taiwan government should know the answer in a couple of years.

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**Tiger's Witcher: Squawk-free airplanes from the outset is the goal.**