

Tiger:

Third Time Around!

If there was ever an airplane virtually everyone cheered for, it was the Tiger. The Grumman-American AA5B was such a great machine the first time around, it seemed to have every reason for success. Most of us who were flying in the 1970s regarded the Tiger as something of an ultimate fixed-gear, four-seat econo-single. In its final continuous production iteration, the Tiger was built by aerospace giant Grumman in Savannah, Ga. The Grumman Ironworks, as they were sometimes called, were especially suited to build the Tiger because of the company's long history of producing tough Navy fighters and corporate jets.

Like the Grumman jets, the Tiger was built Hell for stout. The AA5B was blessed with bonded, rivetless, aluminum wing skins, a one-piece, carrythrough, 6.5-inch-diameter 2024-T3 aluminum tube wing spar and an aluminum honeycomb cockpit framework, not exactly standard construction for a general-aviation airplane. Granted good speed, the quickest handling since the Bellanca Viking and the added attraction of a sliding canopy, the Tiger was a definite breath of fresh air in a world of Cherokees, Skyhawks and Musketeers.

Unfortunately, the industry developed



This nimble sportplane's 2002 revival lends plenty of zest to the fun/family aeronautical SUV category

By Bill Cox

Photography By James Lawrence

a case of bad breath shortly thereafter. The Tiger sold some 1,300 examples in only five years, but Grumman opted out of the little airplane business altogether in 1979. Apparently, they decided there was more money in building fighters and bizjets.

The Tiger was revived in 1990 by a new owner, American General Aircraft Company of Greenville, Miss. AGAC acquired the long-dormant type certificates for the little Grummans from Gulfstream company chairman Allan Paulson, but again, the economy wasn't prime for the innovative four-seater. After an initial surge of pipeline filling, American General's cookie crumbled, and sales slowed to a trickle. AGAC delivered only 176 airplanes before throwing in the towel.

Now, we have a third iteration of Tiger, still easily recognizable as the airplane we all came to love back in the last century, but constructed with the benefits of modern technology. In design and materials, the new Tiger is virtually identical to the old. It's still the same, agile sportplane with 180 hp and a fixed-pitch prop out front, still capable of running along at 140 knots for four hours between pit stops and still happy to enclose four fun-loving souls who like wind in their hair, as long as they don't







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New Tiger Aircraft
supplied by
Fletcher Aviation,
Houston, Texas

weigh more than about 150 pounds apiece. The 2002 Tiger benefits from the new generation Garmin avionics, a totally redesigned leather interior and the highest level of corrosion resistance.

The man probably most responsible for the Tiger's second rebirth is Bob Crowley, former president of AGAC and current CEO of the new Tiger Aircraft LLC in Martinsburg, W. Va. Crowley has been a consistent spark plug for the Tiger cause, and his drive and tenacity are major reasons the airplane has been resurrected for the second time.

Today's Tiger was launched by a group of Taiwanese investors. The Taiwan contingent owns 70% of the new airplane company, and they see their investment as a chance to revive and improve upon what virtually everyone agreed was an excellent design in the late '70s and early '90s. The 2002 Tiger retains the official designation AG5B after the American General version.

Though the new airplane now shares its speed claim with the Cirrus SR20, pilots who love sporty designs will still revel in the Tiger. The entire roof slides back to reveal all four seats, making entry from either side a matter of stepping over the sidewall, down and in rather than have to negotiate a door. Older airplanes featured cloth seat bottoms hinged at the rear to flip up with a toe. The idea is to step on the lower seat frame and ease yourself down into the cushions. Nothing's changed except the material, now smooth, rich leather.

Once you're settled into the snug cockpit, there's a definite feeling of wrapping yourself in an XKE roadster. The airplane has that kind of happy, carefree air about it. The Tiger's interior is fairly friendly, though hardly Commander-like in dimension. At 40 inches wide by 46 inches tall, the AG5B's cabin is closer to that of a Skyhawk than a Mooney or Bonanza. Pilot and copilot sit fairly tall, with good visibility in every direction except straight up and straight down.

The panel is all-metal, logical and straightforward, featuring a three-control power quadrant (carb heat, throttle, mixture) and the usual cast of characters in the avionics stack. Radios are predictably the Garmin 430s and 530s, mounted slightly to the right of the vertically-aligned, turbine-style engine gauges. The new Garmins are so space-efficient, they leave most of

TIGER AG5B

N 9 2 3 T E

SPECIFICATIONS

Base/new price: \$232,600
Engine make/model: Lycoming O-360-A4K
Horsepower@rpm@altitude: 180@2700@SL
Horsepower for takeoff: 180
TBO hours: 2000
Fuel type: 100/100LL
Propeller type/diameter (in.): Sensenich FP/76
Landing gear type: Tri/Fixed
Max ramp weight (lbs.): 2400
Gross weight (lbs.): 2400
Landing weight (lbs.): 2400
Std. empty weight (lbs.): 1500
Useful load - std. (lbs.): 900
Payload - full std. fuel (lbs.): 594
Usable fuel - std. (gals.): 51
Oil capacity (qts.): 8
Wingspan: 31 ft. 6 in.
Overall length (ft.): 22
Height (ft.): 8
Wing area (sq. ft.): 140
Wing loading (lbs./sq. ft.): 17.1
Power loading (lbs./hp): 13.3
Wheel base (in.): 64
Wheel track (in.): 106*
Wheel size (in.): 6.00 x 6
Seating capacity: 4
Cabin width (in.): 40
Cabin height (in.): 46
Baggage capacity (lbs./cu. ft.): 120/41.5

PERFORMANCE

Cruise speed (kts.):

| | ALTITUDE | SPEED |
|-------------------|----------|-------|
| 75% power: | 8,500 | 143 |
| 65% power: | 10,500 | 130* |
| 55% power: | 10,500 | 120* |

Max range (w. reserve) (nm):

| | |
|-------------------|------|
| 75% power: | 513* |
| 65% power: | 560* |
| 55% power: | 590* |

Fuel consumption (gph):

| | |
|-------------------|------|
| 75% power: | 10.7 |
| 65% power: | 9.6* |
| 55% power: | 8.6* |

Estimated endurance (65%) (hrs.): 4.3

V_s (kts.): 56

V_{so} (kts.): 53

Best rate of climb, SL (fpm): 850

Best rate of climb, 8,000 ft. (fpm): 350*

Service ceiling (ft.): 13,800

Takeoff ground roll (ft.): 865

Takeoff over 50-ft. obstacle (ft.): 1550

Landing ground roll (ft.): 410

Landing over 50-ft. obstacle (ft.): 1120

* estimated

the right panel vacant, in case you'd like to install such extras as TCAS, a Stormscope, radar altimeter or CD player. Even some of these can be wired to play through the Garmins.

The sliding hatch makes the Tiger into a pop-top on the ground, but sorry, you can't run with the roof slid all the way back in flight. Fly the airplane no quicker than 112 knots, and it's legal to run with the overhead rolled back 10 inches, providing copious ventilation and a noise level just below that of a AA fuel dragster. Years ago, a Grumman-American dealer and good friend used to fly photo ship in air-to-air sessions with the hatch at the rear stop, confident that it wouldn't come off. In fairness, he may have been right, as I've never heard of a Tiger's canopy departing the airplane in flight. Technically, however, going convertible in the air still isn't a smart plan.

Taxiing a Tiger with the nonsteerable, sprung steel nosewheel out front takes some getting used to if you've been raised in airplanes with the third wheel linked directly to the pedals. Pushing on the rudder pedals doesn't accomplish much on the ground, since there's no

connection between the rudder and the nosewheel. Adding power improves rudder response, but more power is counterproductive during taxi. Asymmetric brake application steers the airplane on the ground. Once you adjust to the difference in response rate, the free-swivel-



The Tiger's new all-metal instrument panel is a big step up from the original plastic ones of the '70s. This AA5B sports dueling Garmin 430s and 530s, and an energy-saving "ground" switch that fires up a single radio for clearances of GPS programming.

FACTORY COMPARISON

| | 2002 AG5B TIGER | 2002 PIPER ARCHER | 2002 PIPER ARROW | 2002 CESSNA SKYHAWK SP | 2002 DIAMOND STAR |
|---------------------------------------|-----------------|-------------------|------------------|------------------------|-------------------|
| Gross Weight (lbs.): | 2400 | 2550 | 2750 | 2550 | 2535 |
| Empty Weight (lbs.): | 1500 | 1703 | 1637 | 1650 | 1543 |
| Useful Load (lbs.): | 900 | 847 | 1113 | 900 | 991 |
| Payload (full fuel) (lbs.): | 594 | 559 | 681 | 582 | 757 |
| Horsepower: | 180 | 180 | 200 | 180 | 180 |
| Wing Area (sq. ft.): | 140 | 170 | 170 | 174 | 145 |
| Wing Loading (lbs./sq. ft.): | 17.1 | 15.0 | 15.0 | 14.7 | 17.5 |
| Power Loading (lbs./hp): | 13.3 | 14.1 | 13.8 | 14.1 | 14.1 |
| V_{so} (kts.): | 53 | 45 | 55 | 47 | 45 |
| Fuel Capacity (gals.): | 51 | 48 | 72 | 53 | 52 |
| Climb Rate, SL (fpm): | 850 | 667 | 831 | 820 | 1070 |
| Cruise (opt. alt./75%) (kts.): | 143 | 128 | 138 | 124 | 147 |
| Service Ceiling (ft.): | 13,800 | 14,100 | 16,200 | 14,000 | 15,000 |
| Takeoff Distance (ft.): | 865 | 1135 | 1025 | 810 | 720 |
| Takeoff Over 50 Ft. (ft.): | 1550 | 1608 | 1600 | N/A | 1150 |
| Landing Distance (ft.): | 410 | 920 | 615 | 550 | 480 |
| Landing Over 50 Ft. (ft.): | 1120 | 1400 | 1525 | N/A | 1030 |

Sources: Aircraft Bluebook Price Digest, Jane's All The World's Aircraft

The third iteration of the Tiger is still easily recognizable as the airplane we all came to love back in the last century, but constructed with the benefits of modern technology.

ing nosegear provides more directional control than you can imagine, allowing the Tiger to spin around taildragger-style in its own wingspan.

Spoiled up for takeoff, the rudder becomes effective very quickly, however. Climb on the new Tiger is unchanged from that of the older airplanes but better than you'd expect from only 180 horsepower with 2,400 pounds to lift, especially in view of the relatively stubby, 31.5-foot wing span. Total area is only 140 square feet, generating some of the highest wing loading in the class, 17.1 pounds/square foot, great for countering turbulence, not so great for climb.

The book number at sea level is 850 fpm, and if you're doing everything perfectly at the 90-knot V_Y with the ball centered, the CG at the aft limit and all other conditions optimized, that's probably not unreasonable. In the real world, plan on 700 to 750 fpm for the first 4,000 feet of climb and you'll be close.

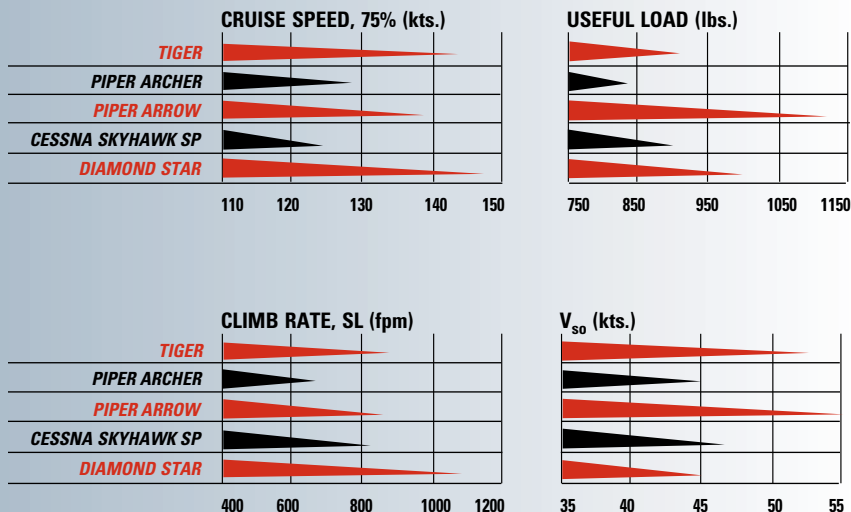
Perhaps more important,

the airplane will deliver acceptable off and up performance from mile-high Denver or Albuquerque on a warm day, typically around 450 to 500 fpm. Although that's not exactly sterling climb, it's enough if you exercise reasonable care. In truth, the Tiger's short wing and horsepower don't allow a high service ceiling, but cruise at 10,500 or 11,500 feet MSL isn't a problem. You needn't park your Tiger for the summer just because you live in the Southwest.

Once you arrive at cruise altitude, the Tiger comes into its own. Cruise speed was always one of the original Tiger's primary claims to fame, and with the same 2,400-pound gross weight, an identical fuselage and wing, the same 180-hp engine and a fixed-pitch prop, the new Tiger not-too-surprisingly shares the first airplane's numbers.

With the benefit of an overall drag coefficient more reminiscent of a retractable, the

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Tiger can run away from every other airplane in its class except the new Diamond Star DA-40. The Tiger's speed advantage is 10 to 12 knots over the comparable Piper and Cessna fixed gears and roughly equal to the retractable Arrow's best straight-and-level numbers.

Specifically, expect about 135 to 140 knots at 7,500 to 8,500 feet, meanwhile pouring about 11 gph through the carbureted Lycoming. In no-wind conditions, expect the airplane's 51-gallon capacity to allow 500-nm cross-country hops in just under four hours with the usual 45-minute reserve. If you're not in a hurry, you can pull back to Warrior/Skyhawk speed and extend range an extra 100 nm and endurance by an hour.

Whatever the cruise speed, you're bound to enjoy the Tiger's handling. The airplane is unquestionably the most agile, nonaerobatic, production machine available in the U.S. and a sheer delight to fly. Roll rate is a quick 70 degrees/second, pitch authority is well matched to the fast ailerons and the light rudder keeps things coordinated with a minimum of effort.

Back in the '70s, I trekked back to Savannah and flew with factory pilot Lloyd Bingham in an experimental Tiger that Grumman American was considering certifying in the aerobatic class. With the reassurance of parachutes and a quick release on the canopy, I flew rolls, loops, hammerheads and an Immelmann or two, basically the gamut of low-G inside maneuvers. Sadly, Grumman shut down the piston line altogether shortly after my aerobatic adventure, so there was nothing to write about, but the airplane was pure fun in all modes.

Stalls in the new Tiger are about as benign as it's possible to make them. Ease off on the power, drop full flaps, lever the yoke back to your belt and the Tiger eventually will settle wings level through the

horizon, then hobby-horse its nose up and down. Put your feet flat on the floor, and you can keep the wings level with ailerons alone, even with the yoke full back in a deep stall. I tried a half-dozen stalls in a variety of configurations and never succeeded in getting the Tiger mad enough to depart toward a spin.

It's also one of those rare machines that resists really bad landings unless you commit the unpardonable sin of landing on the nosewheel. The fiberglass main gear legs absorb amateurish touchdowns, and the S-shaped sprung steel nosegear tolerates all but the most ham-handed abuse. Hold 70 knots down final, and the elevator retains excellent authority for the flare, letting the airplane settle to Earth with an easily predictable touchdown.

From the Tiger's beginnings in the mid-'70s, the whole concept has been to produce a fast, fun-flying airplane for family travel. The late Roy LoPresti designed the Grumman-American Cheetah and Tiger in keeping with his personal philosophy that life was made for fun. That philosophy hasn't changed on the new airplane. At an entry-level price of \$232,600 for the well-equipped standard machine (including dual Garmin 430s), today's Tiger may be a little too pricey for the training class, but it very well could find favor with those who enjoy a little spice in their flying.

The new Tiger Aircraft LLC is banking on the Tiger's past magic to make the third time a charm. CEO Bob Crowley and all the folks in Martinsburg are hoping the airplane's combination of everyday features—fixed-gear reliability, fixed-pitch prop simplicity and four seats—combined with a sliding hatch and quick handling for the frustrated fighter pilot types will make the Tiger the perfect fun/family aeronautical sport utility vehicle.

P&P

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For more aircraft specs, see our Website at www.planeandpilotmag.com

