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Budget Buys

An Ambush of Cats

By Julie K. Boatman

Tigers, Cheetahs, and Travelers — the pick of the litter

Greg Amy likes to race fast cars. So it comes as no surprise that his airplane of choice is a slick model too. Wearing the colors of a checkered flag, his 1977 Grumman AA-5B Tiger gives as good as it goes: On 180 horsepower, that's about 140 knots true in cruise at 6,000 feet. But that's only part of the story.

Sporty, roomy, and a great buy, the clean-lined Grumman AA-5 series (including the Traveler, Cheetah, and Tiger) belies its tangled manufacturing history. In fact, it's a testimony to the soundness of the design that the airplane has weathered no less than four manufacturers (and a fifth in production now) with few airframe problems — and retains such a loyal following.

The reasons for the pride of Grumman owners start with how the airplane feels to fly. Light control forces give the AA-5s nimbleness in turns and the sensation of dancing through the sky. Those transitioning from typical four-place trainers may find the additional responsiveness inspiring.

The AA-5 series has its roots in the BD-1, a two-seat airplane brought to life by aircraft designer James Bede in 1962. The BD-1 featured interchangeable wings and horizontal stabilizer components, the foundation for simple and cost-effective production. Bede sold the design rights to the BD-1 to American Aviation in 1964 as the two companies merged, and he continued on with American as a consultant for a year as it prepared for production of the airplane, which debuted as the AA-1 Yankee in 1969.

"The Traveler is a stretched BD-1," according to Roy LoPresti, who was chief engineer at Grumman Aircraft after that company bought American in 1974. The extension gave the AA-1 design four seats and warranted a new model designation, the AA-5. Airframe construction incorporated the same bonded structure as the original design, and LoPresti credits this move with giving the airplane its strength. "The Traveler has very few bond lines," adds LoPresti. There's one tube for the main spar, and the skin is wrapped and bonded into place, leaving a smooth, rivetless surface. A 150-hp engine was strapped onto the front, and the Traveler saw cruise speeds around 122 knots, with a 430-nm range: nothing magic, but a solid airplane for a small family.

For the Tiger, which replaced the Traveler in the 1975 model year, a Lycoming O-360 with 180 hp provided the thrust and increased cruise speed to 139 knots. Useful load with standard fuel tanks increased from 929 to 1,002 pounds, with an optional tank adding another 15 pounds of usable fuel. The Cheetah was introduced in 1976, with the same 150-hp engine found on the Traveler and a modified Tiger cowl to fit the lower-horsepower engine. The Cheetah and Tiger both had several other design changes from the Traveler model, including a different tail configuration. "The Traveler's tail was an amalgamation from previous airplanes and looked it," remarks LoPresti. The new tail and dorsal fin led to reduced drag.

In 1978, Grumman Aircraft sold its small-airplane division and Gulfstream line of business jets to American Jet Industries (AJI),

which changed the division's name to Gulfstream American. Subsequent sales and the dismal state of affairs in general aviation in the early 1980s caused production to cease until the American General Aircraft Company (AGAC) revived the line in 1989. The Tiger went back into production from 1990 to 1993 as the AG?5B, with a change from the McCauley prop used on the Gulfstream American Tigers and Cheetahs to a Sensenich prop that didn't have the annoying rpm limitations of its predecessor. Only 181 were produced before AGAC ceased making them.

The Tiger's latest shot in the arm has come from the East: Tiger Aircraft, owned by a Taiwanese company named Tong Lung Metal (TLM), began work in 1998 to bring the airplane back into production (see "Leaping Back to Life," February *Pilot*). The new version of the Tiger retails for $219,500, reflecting a brand-new panel and several engineering changes. But a used airplane from the AA-5 series remains a true bargain.

Tiger pride

Few four-place Normal category aircraft offer the "Tiger Taxi." The canopy slides back for sunny days, allowing pilots to cruise the airport pavement with one arm slung over the cockpit rail. Of course, this move is best accomplished once the pilot gets the hang of taxiing the airplane using differential braking — there's no nosewheel steering on the AA-5 series. The open canopy isn't limited to the ground, either: "You get to fly with it open and pretend you're a fighter pilot," notes Jeff Simon, owner of a 1975 Traveler.

The canopy also offers easy access to the passenger and cargo sections of the airplane. The folding rear seat allows for about six feet of cargo space — enough for two regular bikes, according to Simon. The rudder and elevator are cable-actuated, the flaps are controlled via torque tubes, and the ailerons are deployed using a combination of the two. This creates a balance of maneuverability and good manners that makes these airplanes an easy step up for pilots accustomed to more modest ships.

All models in the AA-5 series are certified in the Normal and Utility categories, meaning recovery from a one-turn spin (or a three-second spin, whichever took longer) in less than one additional turn was required during initial flight testing. In response to some criticism that the AA-5 series is "squirrelly," LoPresti notes, "Most airplanes that are light on the controls can roll a little more quickly," and this perhaps catches some pilots used to slower roll rates off guard during an unintentional stall. However, the airplane has normal stall and spin recovery characteristics, and during *Pilot's* test flights no adverse reactions to departure and approach stalls were observed.

The airplane has a tendency to hang on to any speed you carry into the flare, so watch those approach speeds. Though the AA-5 series shows little in the way of accident-inducing mannerisms, more than a few pilots have come in a little too fast for landing, misjudged the point at which to make a go-around, and subsequently put the airplane into the trees.

The downside to the airplanes' snappy roll rate may be that it makes them a little harder to hand-fly in instrument conditions. A single-axis autopilot, at least, is a must for pilots who plan on using Travelers, Cheetahs, and Tigers for IFR.

Amy accomplished his instrument rating in his Tiger, N81140, which he purchased in 1995 for $35,000, and he flies IFR across the country on a regular basis. In fact, he regards the airplane as his "best investment over the past five years." His Tiger, originally from the midpoint of the Gulfstream production years, has undergone a number of changes since it rolled off the line. Amy launched into Tiger ownership, like many, with an eye on upgrading the airplane to better-than-new status. At that point the Tiger had a run-out engine, raggedy interior, and old paint.

The airplane came with the basic Narco IFR panel, with a King KN-62 DME and a Century I autopilot. He replaced one of the Narco Nav-122s first with a Terra nav/com, and then a UPS Aviation Technologies Apollo SL-30 nav/com, and eventually removed the other Narco nav/com, DME, and Narco ADF in favor of an IFR-approach-certified Apollo GX-60. After the old Narco transponder gave up the ghost, Amy installed a Garmin GTX-320 and a PS Engineering PMA 4000 audio panel and intercom. An S-Tec Thirty autopilot now rounds out the package. The result is what Amy calls a "minimalist's panel," suitable for IFR but without the clutter of boxes Amy feels he would not optimize for the money invested.

Aside from the needed avionics replacement, upkeep on N81140 has been straightforward. The honeycomb aluminum structure starts with a box in which the pilot and passengers sit and does not require much in the way of maintenance. During

1975, Gulfstream switched manufacturers of the glue used to bond the skin to the airframe — the new glue was purple, and while it met specifications, it was far less tolerant of imperfect preparation, which caused a range of delamination issues. The American Yankee Association (AYA), the type club for Grumman general aviation airplanes, knows the serial numbers affected and a check for this should be included in any prepurchase research process. However, if any delamination is repaired properly, it can be held in check, so a buyer shouldn't dismiss affected airframes entirely.

Simplicity reigns through the rest of the aircraft, leading to easy maintenance of parts such as the castering nosewheel used in place of a more complex steering linkage. FletchAir offers parts support, and Steve Williams agrees with other Grumman pilots that "parts support is excellent." Williams is the owner of an AA-1A Trainer, prototype for the AA-1 Yankee and a two-seat kid brother to the AA-5 introduced in 1971; he's also a board member of the AYA. FletchAir is continuing parts support even with the new Tiger Aircraft in production. "I think that's a good way to handle it," says Williams. "After all, Tiger Aircraft must focus on producing the new aircraft, and it only makes sense to leave support of older Grummans — especially the two-seaters — to FletchAir, as they have been a primary source of support for some time." He also notes other first-class operations with extensive Grumman experience, including Air Mods Northwest in Washington, which also holds the STC for the Sensenich prop on Amy's Tiger.

Brian Lloyd, former owner of a 1979 Tiger, notes that his aircraft was "down for unplanned maintenance only three times in four years and 1,600 hours." That speaks for itself, considering Lloyd claims that he "literally used that airplane the way most people use their cars. Hop in and go."

The airworthiness directive (AD) list is relatively short, and considering the number of times the series changed production hands, this can be regarded as a small miracle. There is a recurring visual inspection of the ailerons that must be performed every 100 hours for the Tiger models, and the wing attach bolts need to be inspected, and likely replaced, every 500 hours. Those AA-5s with the McCauley prop will need to undergo a check every 200 hours — one more reason to switch to the Sensenich, in Amy's opinion. An oil impeller AD exists for the AA-5s, but most of the one-time ADs on standard parts, such as the mags, air filter, seat belts, oil cooler, and carburetor, should have been complied with on any AA-5 you buy today. Also, check ADs on the engine, O-320 or -360, depending on the AA-5 model you plan on purchasing. A list of ADs, service bulletins, and supplemental type certificates is available on the AYA Web site (www.aya.org).

So the biggest cost is the purchase price, and you can find an AA-5 in just about any price range. Travelers range from $28,500 to $31,500 retail, and Cheetahs for $35,000 to $39,500, according to *Vref* and Bluebook values. Tigers produced from 1975 to 1979 range between $47,000 and $53,500, while newer 1990 to 1993 models go for $68,000 to $81,000. A real steal can be had on an AA-1, harking back to Bede's original design: 1969 to 1971 Yankees go for $16,000 to $17,000. You can access quotes on a specific year and model from *Vref* online (www.aopa.org/members/vref/) or by calling (800/872-2672).

And mods are available, in case you have some scratch left over and want to squeeze a few more knots out of the already-slick airplane. A noncomprehensive list includes LoPresti cowl and air ducts and LoPresti's Boom Beam landing light (see "Pilot Products: LoPresti Boom Beam," February 2001 *Pilot*); the Sensenich prop; wheel fairings; streamlined beacon and position lights; M-20 Turbo's oil/air separator; and the Sky-Tec starter (which Amy has installed on his Tiger).

The best reason to buy into the Grumman line appears to be its type club, the AYA. From meetings at AOPA Expo to fly-ins across the country, these cats know how to have fun. Check out their Web site for events, including scores of regional get-togethers, and a well-attended annual meeting — 137 aircraft landed at the 2001 convention in Blue Ash, Ohio. (The AYA International Convention in 2002 was to take place in Cody, Wyoming, from July 8 to 11.) AYA also has a group insurance program that can benefit new owners.

Current AYA Technical Director Jeff Simon (the Traveler owner mentioned earlier) helps members find answers to specific questions about the AA-5 series, as well as other Grumman singles, and an archive of the past directors' notes is available on the AYA Web site. Simon's airplane is featured in Approach Aviation's The Educated Owner video series.

Also, Grumman pilots take their sleek airplanes to heart, and attempt to match their skills to the airplanes' nimble flight characteristics. Recently, several members of the AYA attended formation clinics and became certified through Formation Flying Inc.'s Formation and Safety Training (F.A.S.T.)-based program (see "Going F.A.S.T.," January *Pilot*). Formation Director

Gregg Wilson is now a certified evaluation pilot and has plans for future training and AYA-sanctioned photo flights.

As for Amy, he's "totally enamored" with his Tiger. "I'll tell you right off the bat that I am not objective on the subject. I find the Grumman line of light aircraft to be one of the best values out there."

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A Racing Start

Denise Waters bought her 1979 Gulfstream American AA-5B Tiger in 1994. An aviation maintenance technician, Waters was in the process of building an aircraft that had a free-castering nosewheel, like the Tiger's, and she felt it would be a good opportunity to learn more about the assembly and maintenance of the nose gear. "I liked its simplicity and how well thought out it was for both flying and maintenance," says Waters. "I also really liked the way it flew."

Soon after she purchased the Tiger, she heard about a Grumman convention in Sun River, Oregon, and thought it a great excuse to fly cross-country from New York where she was based. Along the way, she stopped in the Dayton area to hook up with other Grumman owners. One of those was Ruth Maestre, who owned a Grumman with her husband, Jon. On the way to Oregon, the gaggle of Grummans overheard a slew of female voices on the frequency, and discovered these women were participants in the Air Race Classic (ARC), an all-women cross-country air race. "I thought, 'I want to do that with my Tiger next year,'" recalls Waters. And she did, hooking up with Maestre, an air traffic controller, to fly in the 1996 ARC, that year racing from Prescott, Arizona, to Daytona Beach, Florida.

Waters has raced every ARC since, most of them in her Tiger. Maestre has joined her for every race but one, in 1999, when Waters teamed up with another fellow Tiger owner, Bonnie Porter. The next year, 2000, Waters and Maestre launched what would be an emotional race for the two of them. Jon had been killed the previous fall in an airplane accident, and Waters had worked extensively with him on her Tiger's avionics and maintenance. "Also, the race ended near [Jon's family's] home [near Hyannis, Massachusetts] and they were there to greet us at the end. Finishing the race course, meeting and flying through emotional challenges, and trying to focus on flying the best race we could had us finishing as winners in our own eyes. When we landed at Hyannis, it was a good feeling knowing that we had done the best we could. That day, to our surprise, it also turned out to be the best that anyone could, as we took first."

Waters likes racing the Tiger. "I've flown my Tiger in a few other U.S. races and it does well. But doing well is really a combination of the aircraft, pilot/copilot, weather calls, and luck. The Tiger is a fast little plane, quick on the controls and good for quick turns at checkpoints. They are usually competitive depending on the type of race." But she races her Tiger because it is often the only aircraft available to her. "I did not purchase the aircraft with that purpose in mind." For example, in this year's ARC, Waters and Maestre raced a Piper Comanche.

"Really had wished that we were able to get one of the few new Tigers and fly it for the race," adds Waters. — *JKB*

SPEC SHEET

GRUMMAN AMERICAN AA-5 TRAVELER
PRICE AS NEW: $18,735 TO $21,100
CURRENT *VREF* PRICE RANGE: $28,500 TO $31,500

SPECIFICATIONS

Powerplant	Lycoming O-320-E2G 150 hp @ 2,700 rpm
Recommended TBO	2,000 hr
Propeller	McCauley 2-blade, 73-in dia
Length	22 ft
Height	8 ft
Wingspan	31 ft 5 in
Wing area	140.1 sq ft
Wing loading	15.7 lb/sq ft
Power loading	14.7 lb/hp
Seats	4
Cabin length	7 ft 1 in
Cabin width	3 ft 4 in
Cabin height	3 ft 10 in
Basic empty weight	1,271 lb
Max gross weight	2,200 lb
Average useful load	929 lb
Average payload w/full fuel	707 lb
Fuel capacity, std	38 gal (37 gal usable) 228 lb (222 lb usable)
Oil capacity	8 qt
Baggage capacity	120 lb, 23.6 cu ft
PERFORMANCE	
Takeoff distance, ground roll	880 ft
Takeoff distance over 50-ft obstacle	1,600 ft
Max demonstrated crosswind component	16 kt
Rate of climb, sea level	660 fpm
Max level speed, sea level	130 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
@ 75% power, best economy, 9,000 ft	122 kt/4.1 hr (8.6 gph)
Service ceiling	12,650 ft
Landing distance over 50-ft obstacle	1,100 ft

Landing distance, ground roll	380 ft
LIMITING AND RECOMMENDED AIRSPEEDS	
V_R (rotation)	55 KIAS
V_X (best angle of climb)	68 KIAS
V_Y (best rate of climb)	79 KIAS
V_A (design maneuvering)	106 KIAS
V_{FE} (max flap extended)	104 KIAS
V_{NO} (max structural cruising)	130 KIAS
V_{NE} (never exceed)	165 KIAS
V_{S1} (stall, clean)	55 KIAS
V_{SO} (stall, in landing configuration)	52 KIAS

GULFSTREAM AMERICAN AA-5A CHEETAH
PRICE AS NEW: $25,262 TO $34,615
CURRENT *VREF* PRICE RANGE: $35,000 TO $39,500

SPECIFICATIONS	
Powerplant	Lycoming O-320-E2G, 150 hp @ 2,700 rpm
Recommended TBO	2,000 hr
Propeller	McCauley 2-blade, 73-in dia
Length	22 ft
Height	8 ft
Wingspan	31 ft 5 in
Wing area	140.1 sq ft
Wing loading	15.7 lb/sq ft
Power loading	14.7 lb/hp
Seats	4
Cabin length	7 ft 1 in
Cabin width	3 ft 4 in
Cabin height	3 ft 10 in
Basic empty weight	1,286 lb
Max gross weight	2,200 lb
Average useful load	914 lb

Average payload w/full fuel	692 lb
Fuel capacity, std	38 gal (37 gal usable) 228 lb (222 lb usable)
Oil capacity	8 qt
Baggage capacity	120 lb, 23.6 cu ft
PERFORMANCE	
Takeoff distance, ground roll	880 ft
Takeoff distance over 50-ft obstacle	1,600 ft
Max demonstrated crosswind component	16 kt
Rate of climb, sea level	660 fpm
Max level speed, sea level	136 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
@ 75% power, best economy, 8,500 ft	128 kt/4.1 hr (8.6 gph)
Service ceiling	12,650 ft
Landing distance over 50-ft obstacle	1,100 ft
Landing distance, ground roll	380 ft
LIMITING AND RECOMMENDED AIRSPEEDS	
V_R (rotation)	55 KIAS
V_X (best angle of climb)	68 KIAS
V_Y (best rate of climb)	79 KIAS
V_A (design maneuvering)	106 KIAS
V_{FE} (max flap extended)	104 KIAS
V_{NO} (max structural cruising)	130 KIAS
V_{NE} (never exceed)	165 KIAS
V_{S1} (stall, clean)	55 KIAS
V_{SO} (stall, in landing configuration)	52 KIAS
GULFSTREAM AMERICAN AA-5B TIGER PRICE AS NEW: $25,000 TO $40,995 CURRENT *VREF* PRICE RANGE: $47,000 TO $53,500	
SPECIFICATIONS	
Powerplant	Lycoming O-360-A4K, 180 hp

Recommended TBO	2,000 hr
Propeller	McCauley, 75-in dia, standard Sensenich, 76-in dia, as tested
Length	22 ft
Height	7 ft 7 in
Wingspan	31 ft 5 in
Wing area	140.1 sq ft
Wing loading	17.1 lb/sq ft
Power loading	13.33 lb/hp
Seats	4
Cabin length	7 ft 1 in
Cabin width	3 ft 4 in
Cabin height	3 ft 10 in
Empty weight, as tested	1,467 lb
Max gross weight	2,400 lb
Useful load, as tested	933 lb
Payload w/full fuel, as tested	617 lb
Fuel capacity, std	52.6 gal (52 gal usable) 315.6 lb (306 lb usable)
Oil capacity	8 qt
Baggage capacity	120 lb, 10 cu ft, rear seats up 340 lb, 23 cu ft, rear seats down
PERFORMANCE	
Takeoff distance, ground roll	865 ft
Takeoff distance over 50-ft obstacle	1,560 ft
Max demonstrated crosswind component	16 kt
Rate of climb, sea level	850 fpm
Max level speed, sea level	148 kt
Max level speed, 8,000 ft	139 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
@ 75% power, best economy, 8,000 ft	139 kt/4.0 hr (10.8 gph)
@ 65% power, best economy, 8,000 ft	129 kt/4.5 hr (9.6 gph)

@ 55% power, best economy, 8,000 ft	118 kt/5.2 hr (8.6 gph)
Service ceiling	13,800 ft
Landing distance over 50-ft obstacle	1,120 ft
Landing distance, ground roll	410 ft
LIMITING AND RECOMMENDED AIRSPEEDS	
V_R (rotation)	55 KIAS
V_X (best angle of climb)	70 KIAS
V_Y (best rate of climb)	90 KIAS
V_A (design maneuvering)	112 KIAS
V_{FE} (max flap extended)	103 KIAS
V_{NO} (max structural cruising)	142 KIAS
V_{NE} (never exceed)	172 KIAS
V_{S1} (stall, clean)	56 KIAS
V_{SO} (stall, in landing configuration)	53 KIAS

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.