Aviation Consumer.com
www.aviationconsumer.com

Volume 1
Number 1

AGAC AA-5 Tiger/Cheetah

Simple design and construction, coupled with slick aerodynamics, yields low cost and performance that's better than some retractables.

As this book goes to press, the on-again, off-again production history of the Grumman-American/American General AA-5 appears to be on again. Tiger Aircraft LLC has opened a new factory in Martinsburg, W.Va., and has installed and refurbished original tooling for the aircraft. Production of new Tigers was planned to begin in April 1999, then it was pushed back to November 2000. At this time, there is no word on when completed airplanes may roll out.

The Tiger, with 20 additional horses, has a ûsurprising margin of performance, and price, ûover the Cheetah.

New production is good news for fans of this virtuous single, which offers simplicity (that means low maintenance cost and reliability), good looks and performance that's among the best in its class–better, even, than some retractables with bigger engines and constant-speed props.

The new factory, assuming it works out (Promises of new production have been delayed through a change in ownership in the past couple of years), will initially produce Tigers based not on the American General AG-5B, but on the original AA-5B due to its lower manufacturing costs.

The so-called AA-5G models are promised as well-equipped IFR airplanes. The company may produce Cheetahs as well, and has the tooling for the AA-1 but no plans to put it back in production.

History

With Cessna and Piper cooking along producing small airplanes again and new production from Cirrus and Lancair, the general aviation industry is undergoing a modest revival. But most of the production involves decades-old models with some improvements. That means the AA-5 is actually one of the newest, most modern and innovative single-engine aircraft designs on the market.

The model has an uphill challenge, however. Expected to be priced like a Cirrus SR20, it gives up some speed and certainly the panache earned by the upstart model. At the same time, it's more modern than the Piper Archer, which also shares the price point and much of the same target market.

The "new" approach shows. Like its smaller sibling (and predecessor), the Jim Bede-designed, two-place AA-1, the AA-5 eschews traditional riveted semi-monocoque construction in favor of tubular wing spars, aluminum-honeycomb sandwich fuselage panels, and bonded skins.

The AA-1 Yankee was rather star-crossed, suffering from a variety of design compromises that made it a bit too much for its intended audience (students) to handle. Nevertheless, it was a stout, sleek, nimble little airplane, and in 1972 American Aviation decided to introduce a 150-HP, four-place version of the AA-1. While the AA-5 Traveler shared the family genes of the AA-1, it was really an all-new airplane, significantly larger and boasting new systems.

The construction method and materials were retained, but several aerodynamic and systems changes were made. For example, in the AA-1 the fuel is carried inside the tubular wing spar

(the filler caps are at the wingtips). Seems like a neat idea: Unlike conventional tanks, there's virtually no possibility of leakage. But get a Yankee into a spin and the fuel can move out to the wingtips, changing the airplane's rotational inertia and making the spin unrecoverable. The AA-5 has conventional fuel tanks.

In the AA-1 the fuel gauges are sight tubes with little floating balls inside. Simple, but grossly inaccurate and variable, and who really wants a tube full of avgas right next to their leg in the event of a crash? The AA-5 has ordinary fuel gauges.

The Yankee has a very small horizontal stabilizer and elevator. That's because the left and right stabilizers and the vertical fin are all the same part for economy and simplicity. Fine, but it led to poor elevator authority and stability. The AA-5 has a dorsal and ventral fin and larger elevator.

While the Traveler is not a bad four-placer, the marketplace wanted more performance. A few years after the AA-5's introduction, the line was bought by Grumman, who put aerodynamicist Roy LoPresti to work on the airplane. The result, in 1975, was the AA-5B Tiger. It has a different elevator and cowl, bigger tanks, various aerodynamic tweaks, and a 180 HP Lycoming out front. The following year, the Tiger's airframe mods were applied to the Traveler to yield the AA-5A Cheetah.

The Tiger is far and away the most popular of the AA-5s, commanding prices on the used marketplace out of proportion to its real superiority over the Cheetah. For example, according to the Aircraft Bluebook, a 1979 Tiger retails, on average, for $55,500. A 1979 Cheetah in comparable condition can be had for $41,500. True, it climbs better and cruises 12 knots faster...but you pay nearly $1,200 per knot for what is otherwise an essentially identical airplane. Owners say the extra 30 HP (or, for that matter, the extra 10 HP in later Cheetahs) makes a world of difference, though.

Production came to a halt in 1979 after Gulfstream bought the line. The new owners wanted to concentrate on bizjets, which they still produce. In retrospect, the decision to kill the AA-1 and AA-5 was a good one; the big slide in general aviation began only a year later. American General bought the designs in the late '80s, and the first AG-5Bs, incorporating a few design improvements, were 1990 models. American General folded in 1994. The parts inventories and rights were sold to Fletchair, one of the two main suppliers of Grumman support.

As noted above, the Tiger may return yet again; stay tuned. We may be seeing new ones sometime in 2001 or 2002.

Because of the Tiger's greater popularity, nearly 50% more of them were sold than Cheetahs. Original production for the AA-5B was 1,323 units, versus 900 AA-5As. A total of 834 AA-5 Travelers were produced, as well. American General built around 150 AG-5Bs before going under.

Aside from the improvements made by American General, there were no major changes during the production run. Some refinement occurred. In 1977, soundproofing was improved and windshield thickness doubled to a quarter-inch. Other changes: minor aerodynamic refinements, including rubber fairings on the landing gear, improved windshield sealing and the addition of a nose-strut shock absorber. In 1978, the seats were improved, and U-strips were added to the trailing edges of the control surfaces to prevent delamination of the bonds.

Performance
Both Cheetah and Tiger are at the head of the class in terms of speed. The Tiger has a book cruise speed of 139 knots (some owners say this is true, but most plan for 130 knots), and Aviation Consumer editors have flown side-by-side with a Piper Arrow (200-HP, retractable gear) and pulled away in the Tiger. We've also watched a Piper Archer retreat outside the Tiger's window at about 15 knots. Running side-by-side, a Tiger will burn 20 percent less fuel and loaf along at about 60 percent power while the Archer is flat out.

This is particularly impressive given that the AA-5, by virtue of its slab-sided honeycomb panel fuselage, has some less-than-desirable aerodynamic features: Hard edges run along the lower corner of the fuselage, and the wing-fuselage junction has no fairing to decrease interference drag. What does the trick, in large part, is the bonded construction: No protruding rivet heads.

The Cheetah is about 12 knots slower, with the Traveler slower still, but still plenty faster than 150-HP competition like the Skyhawk and Warrior. Later 160-HP versions of the Warrior with

speed pants can almost keep up with the Cheetah, however.

Climb performance is another story. At sea level and standard temperatures, the Tiger does reasonably well—850 FPM, about on par with the competition. But under tougher conditions—hot day, high altitude, heavy load—the Tiger's climb performance falls off very rapidly. Service ceiling is 13,800 feet, less than the Archer and Cardinal.

The Cheetah, with 30 fewer horsepower, is even more susceptible to this rapid decay of climb performance when hot, high or heavy. Book numbers are comparable to the 150-HP Skyhawk and Warrior, but our experience and reader reports suggest these are optimistic. One Cheetah owner reports a sickly 250-FPM climb at gross weight in hot weather. Another says that, 150 pounds below gross, he only manages about 500 FPM. "I always get outclimbed by a friend who has an old Skyhawk." This lack of climb power has resulted in a lot of accidents.

Oddly, takeoff and climb performance can be enhanced by ignoring book procedures, which call for flaps up. Some experienced Tiger/Cheetah pilots put down about one-third flaps when takeoff performance is critical.

The safety record shows that the climb performance (or lack thereof) does bite pilots. Still, experienced Grumman owners say that if proper technique is used, short fields aren't a problem.

Payload and range
Gross weight of the Tiger is 2,400 pounds, and typical IFR aircraft run 1,450-1,500 pounds. That leaves a useful load of about 900 pounds, typical for the 180-HP four-placers. That's enough for full fuel (51 gallons) and three adults, plus a little baggage.

The Cheetah, with an empty weight only slightly less and a gross of 2,200 pounds, typically has a useful load around 750 pounds. That's good for full fuel (38 gallons) and not quite three 170-pound adults. (Some Cheetahs have optional 51-gallon tanks, but these can be filled only in the two-place mode.) The marginal useful load is all the more unfortunate because of the Cheetah's rapid loss of climb performance when overloaded. However tempted, one shouldn't mess with the Cheetah's weight limits.

The rather small baggage door helps out in this regard. Called a "mail slot" by one owner, it discourages the loading of large, heavy items into the baggage department. If you insist, you'll have to lug them into the cockpit and over the back seat. Center of gravity is normally not a problem in either Cheetah or Tiger.

The Tiger's 51-gallon fuel capacity is just about right: good for more than four hours at max cruise power (about 10 GPH) with a comfortable reserve. If you throttle back a bit, endurance shoots up to near six hours. A reasonable range figure with full tanks is 500-plus NM.

The standard-tank Cheetah, by comparison, has shorter legs. The 38-gallon supply is good for a bit less than four hours, with reserves. Call it 450 NM. As a two-placer with the optional 51-gallon tanks full, the Cheetah will fly a lot longer than you'd want to sit in a small plane.

Handling
Another big selling point of the Tiger and Cheetah is the superb handling qualities. These were inherited from its "sports car" AA-1 forebears, but the twitchiness, instability and violent stall characteristics of the original AA-1 have been eliminated. In sum, the Tiger is an almost ideal blend of light, responsive handling and reasonable stability and docility.

The other side of the sports-car handling coin is less-than-ideal IFR stability. "It's adequate, but not a rock-steady machine," says one owner. "It's easy to wobble your way down the glideslope," confirms another. An autopilot is a valuable helper on an IFR AA-5.

Landings are no particular problem. Unlike the AA-1, the AA-5s don't sink like a brick and skitter around on the ground. If anything, the AA-5s are floaters. The small flaps don't really make much difference. Owners comment that nailing the approach speed is important in making good landings.

The Tiger's floating tendencies—and the pilots' tendencies to bring it in too fast—make landing overshoots the number one cause of AA-5 accidents. On the ground, the Tiger has an oddball swiveling nosewheel that requires steering by brakes. Once adjusted to, however, this procedure allows adroit maneuvering in tight spaces. Pushing the airplane backward without the towbar can

damage the nosewheel. It casters, but not all the way around. This also means that chocking the nosewheel doesn't work; it can swivel sideways and pop free of the chocks.

The pilot does have to ride the brake during the first part of the takeoff roll, before the rudder is effective, and while taxiing in crosswinds. Old Tiger pros often start their takeoffs cocked well to the right. By the time the nose swings around straight, the rudder starts to work and no brake-riding is required at all.

Cockpit
The first thing everybody notices is the Tiger/Cheetah's sliding canopy. If you're young and agile and wearing pants, no problem, but others may not like it. Also, everything gets wet if it's raining, including the electrical components on the console: The flap switch and the handhelds power plug.

The canopy provides superb visibility, but can be deadly in a crash. If the fuselage is warped by the impact, the canopy may jam, preventing escape in case of a fire. We're aware of one grisly accident in which a Tiger overran the runway—a minor accident, really—but caught fire. The canopy would open only a few inches, and the otherwise unhurt occupants burned to death. This is a rarity, however. (And of course doors in standard airplanes sometimes jam, too.)

The slide-back canopy is sporty and can be opened in flight about 10 inches. It's great in summer, not so great in rain.

The panel is well laid out, with plunger-type engine controls (a throttle quadrant on the AG-5B, which may go away when the new Tigers go back into production). The AA-5's fuel selector is a good one. Although it doesn't have a "both tanks" position and therefore requires tank switching, the selector/gauge system is just about idiot-proof: a prominent lever, right under the throttle, with the lever pointing directly at the gauge for the selected tank. It's a good system, as is borne out by the accident record: We took a look at fuel mismanagement accidents, and the AA-5 came up six times better than the AA-1 with its awful fuel system.

Of note is the electric flap system, activated by a toggle on the center console. The indicator is next to the switch, which means the pilot has to look straight down to see it—not the best arrangement. Experienced Grumman pilots tend to simply count to five for half flaps. A slight quirk of the switch is that if you hold it down to extend the flaps and let it go, it tends to flip back over center and retract them again.

The Tiger/Cheetah interior is comfortable, if not cavernous—although the panoramic visibility makes it feel roomier than it really is. Some owners complain about lack of shoulder room. The seats are very basic, with no height or seatback adjustment.

A unique feature is the fold-down rear seats, which provide a six-foot long cargo compartment that will hold a couple of ten-speed bicycles—or even two snoozing occupants in sleeping bags.

Safety
Historically, AA-5s have had a worse safety record than competing aircraft like the Skyhawk, Warrior and Archer. Three big factors seem to be the reason for this.

The first is lack of familiarity. The Grumman four-placers are noticeably different than Cessnas and Pipers; not necessarily harder to fly, just different. A pilot transitioning out of another type should get a thorough checkout by an instructor familiar with Grummans, then stay especially alert until he or she is comfortable.

The second seems related to less-than-stellar climb performance. Many owners noted that climb performance is not terribly good, and the accident record has shown that Grummans are involved in proportionately more takeoff accidents than some of the competition. This is particularly true of the Traveler and Cheetah.

Lastly, landings can be a problem. It's necessary to get the approach speed right. The flaps don't do a very good job of slowing the airplane, and it's easy to overshoot. Also, the springy nosegear, if pranged, will lead to a porpoise situation—it should be held off as long as possible. Fortunately, the airplane responds very well to slips as a means to control glide path.

Maintenance

The Tiger generally has proven to be a simple, reliable airplane. "Nothing ever seems to break," says one owner. Compared to other 160-MPH airplanes, maintenance costs are low. (No retractable gear or constant-speed prop like the others.) Compared to other 180-HP fixed-gear aircraft of lesser performance, maintenance costs are similar.

Here's a checklist of the most common maintenance problems:

• Cylinder problems. The 180-HP Lycoming O-360 and 150-HP O-320 are two of aviation's most enduring and reliable powerplants. Unfortunately, the installation in the AA-5s is not the best; in an attempt to wring every last knot out of the airplane, Grumman cut the cooling airflow margins very close, and some AA-5s tend to overheat. This shortens engine life, wears out rings and valves, and can cause high oil consumption.

The problem is exacerbated by thin, flimsy engine baffling and poor baffle sealing. If the baffles aren't in tip-top shape, cooling suffers even more. Closely inspect the baffling of any Tiger or Cheetah considered for purchase, and be sure to do careful compression checks and a borescope cylinder inspection to check for heat-related problems. We'd also recommend installing a four-probe cylinder-head temp gauge to more closely monitor the engine. One owner who did reports seeing temperatures as high as 450 degrees. Another uses his to carefully monitor his leaning and keep CHTs below 400 degrees.

• Bond-line separation in the early models. The culprit turned out to be an improper bonding sealant, American Cyanamid FM-123, known as "purple passion" among production employees. The FM-123 was used in all Grumman-American aircraft built between April 1974 and December, 1975—including Tigers up through about serial number 125.

At least one severe delamination occurred in flight in a 1975 Tiger, but no accident resulted. At least two Tigers, serial numbers 15 and 19, were virtually rebuilt from scratch because of severe bonding problems. According to a former Grumman American production employee, 30 or 40 honeycomb fuselage test panels somehow found their way into production aircraft, possibly affecting Tigers with serial numbers below about 30.

A 1976 AD required rivets along bondlines, and the problem has since receded. But any buyer of a 1975 or early 1976 Tiger should be aware of the potential for problems. As for the Cheetah, since it came along a year later, only a tiny handful of the earliest Cheetahs used the purple stuff. (Incidentally, you can check for the defective glue by pulling off the wingtip and inspecting the bonded seam at the spar-to-rib or rib-to-skin joint. If there's a purple line, you may have a problem.)

• Nosewheel shimmy. The Tiger/Cheetah nosewheel not only looks like a shopping cart wheel, sometimes it acts like one, too. The shimmy problem is caused by a variety of factors: improper tension in the spring washers (they may be worn out, or the shop may have adjusted them too loose by improperly interpreting the 18- to 22-pound side-pull requirement as a torque requirement); loose axle nuts, bad tire, or loose torque tube strut. The nosegear demands a lot of maintenance, and must be lubricated and adjusted strictly by the book. (Not many shops even have the book.) In particular, the strut inside the torque tube should be free of corrosion and well lubricated.

The 1977 and later models have a shock absorber in the nosewheel, which helps to some degree, but they make removal of the nose gear rather tricky. If you have persistent shimmy problems, see a good mechanic who specializes in Grumman American aircraft.

• Cracking prop spinner. Pre-1979 Tigers (s/n 1047 and below) had problems with cracking spinners, possibly related to propeller vibration. Virtually all Tigers in the field have been retrofitted with improved spinners, but check just to make sure. One experienced Grumman mechanic who wrote to us says that even the new spinners have problems.

• Magneto problems. The Slick mags in the AA-5s just don't seem to last. We have numerous reports of failures in 500 hours or less.

• Leaky fuel tanks. Several owners reported leaks, and blamed it on the aromatics in low-lead fuel. A recent AD on the AA-5 addresses the fuel tank sealant.

• High brake wear. Because of the steer-by-brakes system, pads wear out quickly. Clever AA-5 pilots manage to minimize brake use, however. Good brake maintenance is important; if there's a failure, the plane cannot be taxied.

• Fragile rudder return springs. Several owners reported repeated breaking of the rudder springs. One fellow took to always carrying a spare, just in case.

Although pilots have to switch tanks, the system is almost foolproof, and very few fuel exhaustion accidents occur.

Airworthiness directives

Tiger owners face two major repetitive AD annoyances. The first is the 200-hour inspection of the McCauley prop hub for cracks; second is the 100-hour inspection of the ailerons.

In addition to the usual shotgun ADs that apply to many aircraft, the Tiger and/or Cheetah have had one-time ADs on the rudder bar, cowl hinge, mixture control, bonded skin, alternate static source, carb air box and carb heat valve.

AD 89-18-08 covered the longstanding problem of fuel tank sealant coming loose, and required an inspection and reseal if necessary. More recently, 95-19-15 calls for replacement of wing shoulder attach bolts that are fretted, scored or otherwise worn.

Finally, one potentially onerous AD has cropped up in 1998; 98-2-8 calls for inspection of the hollow crankshaft's bore for corrosion pits or cracks. If nothing turns up, an anticorrosion treatment takes care of the AD once and for all. If cracks are found, the crank needs to be replaced, and if corrosion pits are found, the AD becomes a 100-hour repetitive inspection until a new crank is put in at overhaul.

Parts, mods

There are two places to go for Grumman parts. One is Fletchair, at the Houston-Hobby airport in Texas. The shop has long specialized in supporting Grummans, and when AGAC folded, Fletchair wound up with the parts inventories and manufacturing rights. The other is Air Mods NW in Washington State.

We'd recommend three modifications for the Tiger. First, a Sensenich propeller in place of the AD-plagued McCauley. In addition to eliminating the AD inspection, the new prop also does away with an annoying RPM restriction between 1850 and 2250 RPM in descending flight–right at the usual ILS approach speed. Unfortunately, installation is not intuitive and common installation errors have led to problems with the bulkhead and/or propeller attach bolts.

Air Mods NW also offers an oil cooler and baffle modification that is claimed to reduce oil temps by 25-40 degrees. Considering the Tiger/Cheetah's tendency to run hot, that's a good idea.

Fletchair has a split nose cowl STC, which eliminates the need to take off the spinner and prop to get at the starter, alternator and front engine baffles. This applies to the 1975 Traveler up through the 1979 Tiger. The AGAC Tiger already has a split nosebowl.

Air Mods NW can turn Travelers and Cheetahs into Tigers with a 180-HP conversion. They also can convert Travelers and Cheetahs to constant-speed props and install split nose and lower cowlings, plus wing tip and wing-skin embedded halogen landing lights and roller canopy tracks.

Fletcher Aviation offers hints for aerodynamic cleanups, and operates what it claims to be a perfectly stock 180-MPH Tiger. Its Cheetah-to-Tiger conversion involves changing the engine, center spar and reworking the engine cowling. A new prop is extra.

Owner group
We also throw our full support behind the American Yankee Assn., the owners group for the Grumman/AGAC airplanes. In addition to the usual newsletter and fly-in activities, the AYA is a useful source of technical and maintenance information. Such specialized expertise is almost a necessity to own and fly an airplane like the AA-5 that may not be familiar to every local mechanic. The AYA also has a special group insurance plan that may save you money, and can put you in touch with approved pilots for a proper AA-5 checkout. The association also publishes a very informative tip sheet for the AA-5, covering operations and maintenance, and which includes a summary of all ADs and service bulletins applicable to the aircraft. Call them at (530) 676-4292, or visit them on the Web at www.aya.org.

Owner comments
After flying, owning and personally maintaining other brands for over 20 years and several Tigers and Cheetahs since 1987, I've found that the Tiger (specifically) is one of the finest, simple fixed gear production aircraft available anywhere. With the redesign of the-engine cowling, empennage and landing gear clean-up. the Traveler evolved into the Cheetah one year after the Tiger was introduced in 1975. It now had more speed, range (52 gal. now optional) and aft CG capability. The Tiger, with its 180 HP, proved to be unequaled in cruise speed and efficiency in its class.

Control response is well harmonized and relatively light (compared to other production aircraft). Ground handling is superb when taxiing in tight quarters due to the free castering nose wheel, which can also contribute to more rapid brake pad wear for many pilots who tend to drag the brakes. Visibility is very good due to a low instrument panel/glareshield and high side windows (like the Bonanza).

Production changes between 1975 and 1979 on the Tiger and Cheetah were few; the most significant being corrosion-proofing in the wings and fuselage in '76, a 1/4 in. thick windshield in '77 and improved seats in '78. Minor electrical system improvements were also made then and two shock absorbers were added to the nose strut to dampen the oscillation tendency. The '79 models have the large flush fuel caps.

Typical Tiger max cruise speed is 135 knots at 8000 feet and 10 GPH fuel consumption. This is less that the 140-knot book figure due to IFR antennas, etc. Removing the steps and installing a flush rudder beacon cap (like the newer AG-5B Tigers) will gain 4 knots and another 2-3 knots can be obtained with flap, aileron and spinner gap seals and a Sensenich prop. The gap seals and prop also increase rate of climb somewhat.

A standard Cheetah is known for its mediocre takeoff and climb performance. By increasing the 150 HP engine to 160 HP. with high compression pistons (an STC modification) the plane takes on a new character. Rate of climb increases by at least 150 fpm and cruise speed by 5 knots When incorporated with the above drag reduction mods, max cruise speeds of 156 knots can be achieved on a modest fuel consumption of approximately 9 GPH.

Although the Tiger is not known for its short field performance, it can be operated safely out of a 1500 foot unimproved field (at low density altitude) if flown properly. It slips well with full flaps and handles crosswinds easily with good aileron control right down to the stall. If the weight is light, final approach speeds can be made at 60 knots, with 70 knots more normal for most conditions.

The interior of all the models had molded plastic trim around the windows, in the rear compartment, the center console and the instrument panel overlay and glareshield. After 15-20 years almost all of the planes have numerous cracks in the plastic and warped glareshields due to exposure to the sun and cold. Although many of these defects can be repaired, new plastic trim and placard kits (along with many other parts specific to the make) are available through Fletchair Inc. Interior room is adequate and ventilation is very good, especially when taxiing with the canopy slid back. The sliding canopy and easily foldable rear seats make it easy to carry bulky cargo such as bicycles or use the plane for camping.

The aircraft was designed to be simple to manufacture and maintain with no complex systems, thereby minimizing the cost of operation and maintenance. Very few AD notes apply to the four-place models; common SDRs include broken alternator brackets, carb air box & screen cracks, prop spinner bulkhead cracks and nose struts seized in the socket due to poor maintenance practices. The nose strut will not tolerate much abuse and can bend or spring upward enough to allow the prop to contact the ground if the plane is landed hard on the nose wheel first. With proper piloting technique this is never a problem, even when operating out of rough fields. The main gear wheel fairings are also prone to cracking (rough field operation) and the cowlings of

the ’78 & ’79 models crack on the right side corner of the air outlet duct.

Several worthwhile mods are available such as a split nose bowl (to access the alternator and starter without removing the prop), wingtip landing lights, flush rudder beacon cap, engine oil filters and magnetic chip detectors, stronger fiberglass wheel fairings and dorsal fin, the 160 HP engine for the Cheetah and Traveler, the Sensenich prop for the Tiger, STEC autopilots and 4 cyl. EGT/CHT and other engine and fuel flow instrumentation.

The American Yankee Association (AYA) is a group of nearly 2000 American and Grumman/Gulfstream American aircraft owners dedicated to the preservation and maintenance and joy of flying the various models. The bi-monthly newsletter is top quality and filled with articles on maintenance tips, piloting technique and other interesting subjects.

Finally, credit must be given to Jim Bede, Roy LoPresti and the others responsible for the design, development and refinement of such a fine aircraft; an aircraft which was ahead of its time with unusual manufacturing techniques and design features and a step ahead of the competition in performance.

Cliff Hanson
N.W. Regional Director, AYA

I have owned a Cheetah for four years. It is my second plane, the first being a Cessna 150. I am very happy with this plane and would highly recommend it to anyone that was looking something in the Cessna 172 line of aircraft.

I had no difficulty with the transition from high wing to low wing. There are a couple factors that affect this but if checked out by an experienced Grumman pilot one should not have any problems. There are really only two problem areas: First, on takeoff if one pitches to the standard Cessna view they will probably stall. The Grumman has a much better over the nose view. I swear the first time I flew it I had to push the nose down to make it climb. The second area is ground effect. If you come in fast, say 70 knots or greater over the numbers, you’ll float a long ways. Easy to overcome if you fly the numbers and flare to land.

Handling is a dream! Quick, light and responsive controls. I had a top overhaul done and in the process installed an STC which provided higher compression pistons and boosted horsepower to 160. I find this to be very worthwhile. That extra 10 HP does make a difference. I average 115 knots @2500 RPM burning less than 8 gals/hour. I can easily overtake a 172. It is true that the Cheetah has a poor climb rate. Don’t overload it and take off at noon or any other time if you’re much above sea level. It does, however, carry four adults (i.e., 170-lb males and 120-lb females) and minimal baggage (almost none) for 2 hours plus reserve fuel. It can also do three males and two hours of fuel. What it does best is my wife, full fuel (51 gals, long range tanks) more suitcases than you want to carry, and stay aloft for greater than 6 hrs.

I roughly figure it costs around $40.00 an hour. (Fuel here is only $1.65/gal). Maintenance and parts availability have been a snap. The last 3 annuals have ranged from $250 to $450 and all of them have been owner-assisted. Actually you could say owner directed because there are not many Grumman-familiar mechanics in Puerto Rico.

If you own a Grumman you can’t fully enjoy it without being a member of the AYA. The next best support is Fletcher Aviation and AirMods NW. Two wonderful suppliers of parts and information.

John Horton
Puerto Rico

Our shop has been a Grumman service center since about 1974, when we were also selling the aircraft. Often we see airplanes come in for annuals that have not seen Grumman shops either in many years or not at all. What is so ironic is that the planes are actually very simple in construction; I believe that this lulls many mechanics into thinking that manuals are not needed to repair and inspect them.

One thing that is quite common is to see airplanes that have never had the nose strut removed for inspection and service at the time of the annual, which is required by the manual. If a nose strut has not been removed for a few years, it can be quite a chore to do so. This became such a

problem for us that we factored an extra two hours into our flat rate inspection fee to cover removal of the nose gear. We have also seen a few aircraft that still had the old-style steering shim washers installed and had the nose fork set to a lower tension than required. This was most likely due to mechanics using an out-of-date service manual.

It is also an annual requirement to not only inspect the nose gear torque tube, but check the bolt torque as well. Sometimes we see planes that appear to have the original factory anti-sabotage still on the nuts. Of course, to inspect this torque tube you must lie almost face-down with your head way down under the panel and against the firewall. Other often-ignored bolts are the wing attach shoulder bolts.

One troublesome spot with the AA-5 series has always been the spinner and backing plate. Even after Gulfstream came out with a kit to replace it, the problems continued. It is easy to install the rear bulkhead a little out of position and elongate the alignment holes. Our policy is to have one person hold the rear bulkhead in position while another tightens the attach bolts.

Of course, most are aware of the fact that the O-360 engine in the Tiger is famous for breaking exhaust valves. This engine is a prime candidate to have Lycoming SB 388 performed if it's gotten to about 1,000 hours. Otherwise the only real engine problem is blown-out exhaust mufflers, which tend to go at about 400 hours. These are in very short supply, so we keep an overhauled unit and extra risers in stock.

The electrical system in the AA-5 takes a little getting used to. Grumman used a number of diodes on components such as the battery and starter contactors and the master switch. It's necessary to understand both their function and the procedure for checking them.

Peter Connor
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