

board reported. "Of the 163 persons aboard, 134 passengers and crewmembers were killed; 26 passengers and three cabin attendants survived."

Fifteen of the plane's occupants, including one cabin crew member, were seriously injured. Two of the seriously injured passengers died more than 30 days after the accident.

The captain of Flight 191, 57-year-old Edward N. Connors, had been employed by Delta since June 1954. He had logged 29,300 total hours, including 3,000 hours in L-1011s.

"According to airmen who had flown with the captain, he was a very capable and meticulous pilot who adhered strictly to company procedures, explained his thoughts about airplane operation to the flightcrew, and cautiously deviated around thunderstorms even if other flights took more direct routes," the board reported. "He willingly accepted suggestions from his flightcrew and made prompt decisions."

Flight 191 had departed from Fort Lauderdale, Fla., and was making a scheduled stop at DFW Airport when the accident occurred. The flight's intended final destination was Los Angeles, Calif.

After switching to DFW tower frequency, the crew of Flight 191 was cleared to land on Runway 17L.

Through analysis of the cockpit voice recorder (CVR), the board determined that at 6:04:18 p.m. local time, the first officer said, "Lightning coming out of that one (storm cell)." The captain then asked, "What?" and the first officer repeated the statement. When the captain asked, "Where?" the first officer said, "Right ahead of us."

Flight 191 continued descending along the final approach course, and at 6:05:05 p.m. the captain called out "1,000 feet." Fourteen seconds later, the captain cautioned the copilot to watch his indicated airspeed. At that time, the sound of rain began.

At 6:05:21 p.m. the captain warned the first officer, "You're gonna lose it all of a sudden, there it is." At 6:05:26 p.m. the captain said, "Push it (power) up, push it way up." Three seconds later, the sound of engines at high rpm was heard and the captain said, "That's it."

Within 15 seconds, the Ground Proximity Warning System sounded,

and the captain commanded, "TOGA (activate the takeoff/go around switch, which provides flight director command bar guidance for an optimum climb-out maneuver)." Three seconds after that command was issued, "a sound similar to that produced by a landing airplane and the sound of the takeoff warning horn were recorded," the board stated.

Go-around ordered

The local controller handling Delta Flight 191 told NTSB investigators that "When Delta came out of the rain shower, his attitude to me did not appear to be safe. As many aircraft as I've seen land in my years at DFW, normal attitude is nose slightly up . . . and when he appeared out of the rain he was in what appeared to be straight and level flight. It just didn't look right to me, (so I told the flight) just, 'Delta, go around.'"

Witnesses generally agreed that the aircraft struck the ground in a left-wing-low attitude, and that the fuselage rotated counterclockwise after the left wing and cockpit area struck one of the water tanks on the airport. A large explosion then obscured the witnesses' view momentarily, and then the tail section emerged from the fireball, skidding backwards. The tail section came to rest on its left side, but was later blown to an upright position by wind gusts.

The fuselage forward of seat row 34, including the cockpit, disintegrated after the aircraft struck the water tanks. The cockpit and the forward cabin section, containing the first 12 rows of seats, were destroyed when the plane struck the water tanks, according to the board, and there were no survivors from that section of the aircraft. Surviving passengers reported that fire had entered the cabin through the left wall before the plane struck the tanks.

Most crash survivors were seated in the tail section, which remained intact. Two survivors escaped injury.

"The mid-cabin forward of the separation was destroyed by impact forces and fire," the board stated. "Only eight passengers who were seated between rows 21 and 23 survived."

"The Safety Board considers the survival of the 12 persons seated forward of row 40 most fortuitous inasmuch as seven of them were burned and all were seated in portions of the

cabin that had been subjected to the high-impact forces which destroyed seats and surrounding structure," the report said. "Based on these facts, the Safety Board concludes that the impact sequence was not survivable for persons seated forward of row 40."

Analysis of the plane's digital flight data recorder (DFDR) "showed that the horizontal winds affecting Flight 191 veered from an easterly to a northerly direction," the NTSB said. "During the descent, a maximum headwind component of about 26 knots was encountered at 754 feet AGL (above ground level). The headwind component then decreased, changed to a tailwind, and the maximum tailwind component of 46 knots occurred near the first impact point. Since the airplane's ground speed was increasing at this time, it was probably still within the outflow at impact."

Wind field analysis showed that the aircraft "flew through the outflow of a thunderstorm," the report stated. "The horizontal dimensions of the outflow were about 11,000 feet (3.4 kilometers) and since the airplane's track passed close to the center of the outflow, the diameter of the outflow, assuming symmetry, was also about 3.4 kilometers. Based on its size, this outflow can be classified as a microburst."

The board also found that Fort Worth Center's CWSU meteorologist was on an approved evening meal break at the time of the accident, and that, given his other responsibilities, the presence of the meteorologist at his station would not necessarily have assured his immediate observation of the storm cell build-up.

However, the NTSB did conclude that the absence of the meteorologist from his station "and the failure of CWSU procedures to require the position to be monitored by a qualified person during his absence precluded detection of the intensification of the weather echo north of the DFW Airport."

The cockpit crew of an airliner landing about four minutes before the Delta plane reported sighting lightning on either side of their aircraft, according to the board, and stated that they observed a "waterspout" phenomenon. ■

ownerReport: The Grumman AA-5

Aviation
DIGEST

Flying and Buying the Grumman Tiger

by Keith Connes

I don't remember exactly when, but it was early in 1984 that I began to think seriously about it. By summertime I was taking action. I hadn't owned a plane for a decade-and-a-half; as an aviation writer, I got to borrow all types of aircraft. But there was one problem. I always had to give them back.

So I decided it was time to go through the agony and ecstasy of choosing a plane that I *wouldn't* have to give back. In the ensuing quest, I considered a number of models, but returned over and over again to the sprightly line of Grumman American singles, of which the Tiger was the king.

Keith Connes has written numerous articles for general aviation magazines, and is the author of "Know Your Airplane" and "The Loran, RNAV and Nav/Comm Guide."

They had always been fun to fly, the visibility they offered was outstanding (sightseeing is a big part of flying for me, and so is safety) and I liked the sliding canopy. The major question in my mind was the availability of parts and knowledgeable service for a product line that had been out of production for five years.

I contacted a man named Ken Blackman of the American Yankee Association. Despite its name, the AYA is a club devoted to all the models in the GA line, and after some conversation Ken invited me to be a speaker at their annual convention in Delavan, Wisconsin. I agreed, and during my visit got to fly all manner of Grumman. By the end of the convention, I heard myself asking Ken to give me a holler if he came across a clean Tiger. Ken replied that he had something in mind and would try to work it out.

A few days later, Ken called to tell

me about my plane. It was a 1976 Tiger, eight years old, with only 290 hours total time. Two men had bought it new from Ken when he was a Grumman American dealer, and neither owner ever got beyond the student pilot stage. The plane had been hangared all that time and was exceptionally clean. I bought it over the phone — something I had never done before.

As I write this, I've owned N74863 for slightly over two years and have put 270 hours on it. The plane has lived up to my expectations in every way, and I am very pleased with it.

Unique construction adds to appeal

In my view, the Tiger is very different in appearance from its heftier-looking counterparts produced in Wichita, Vero Beach and even Ker-ville. The plane has a boxy-yet-sleek look you'd expect to find in a good experimental or foreign design,



where simplicity of construction and performance efficiency head the list of priorities.

Construction of the plane is quite different from that of its competitors. The Tiger's fuselage is made up primarily of aluminum honeycomb sandwiched in sheet aluminum. This drastically reduces the number of drag-producing rivets. Furthermore, the wings are bonded and totally rivet-free.

The upper portion of the cowling unlatches at two points on each side for easy inspection of the engine. However, the latching mechanism is a little tricky, and more than once I have found it improperly secured after maintenance.

The main landing gear struts are made of laminated fiberglass. The nose wheel is not connected to the rudder pedals, but instead casters freely 90 degrees to either side of center. This saves parts and weight (the entire plane has a relatively low parts count and is lighter than others in its class) and makes for unusual ground maneuverability. In fact, you can turn the plane 180 degrees in the same

spot, simply by walking the wing tip around. Backing up is another story; that takes *practice*. Also, a little extra technique is needed when taxiing, taking off and landing in a crosswind.

The control surfaces are conventional and are operated by a combination of torque tubes and cables. The flaps are electrically actuated. The plane is powered by a 180-horsepower Lycoming O-360-A4K engine. Fuel capacity is 52.6 gallons, of which 51 are usable.

As I mentioned before, I like the sliding canopy. Entry is easier than crouching through the customary low-wing door, and the canopy can be left open for plenty of ventilation while taxiing. It can also be opened part way in flight, at speeds of up to 113 knots. The canopy has some disadvantages: Opening it for entry or egress in the rain results in a wet interior. Also the canopy lock tends to leak. And the rails must be kept clean and lubricated, or the canopy will stick.

The Tiger has a nice arrangement for carrying bulky cargo. The rear seat cushions can be removed and

the seat back folded down to provide a flat deck.

ADs on prop, ailerons

The airplane has a couple of recurring Airworthiness Directives (ADs). One requires that the ailerons be removed and inspected every 100 hours. Another necessitates the removal and inspection of the McCauley propeller every 200 hours, although a factory service bulletin recommends this procedure every 100 hours. Also, there is a cautionary yellow arc on the tach between 1850 and 2250 rpm, and prolonged operation within that range is to be avoided.

The propeller situation can be taken care of via a Supplemental Type Certificate (STC) that involves installation of a Sensenich prop and a new spinner. This wipes out both the inspection AD and the yellow arc.

When I purchased my Tiger, I had the prop change made through Ken Blackman, who at the time was manager of Ameromod in Everett, Washington. As its name suggests, Ameromod specializes in modifications, maintenance and repairs of Grumman American aircraft. (Ken has

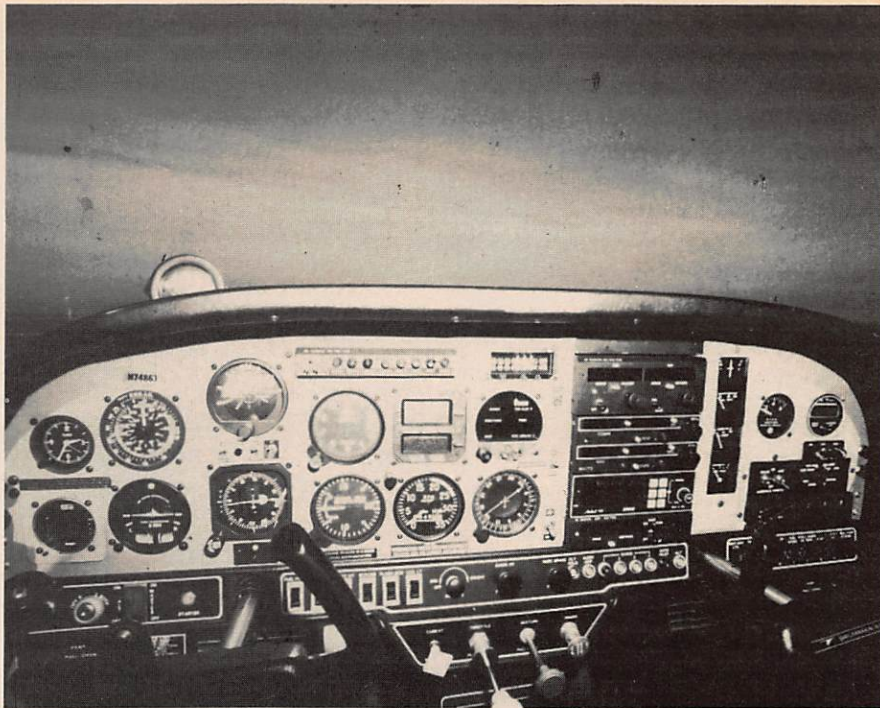
since left to co-found a similar operation in Snohomish, Washington, called Air Mods N.W.)

Ken also suggested another mod that alters part of the engine baffling to reposition the oil cooler and thus improve engine cooling, and I had him do that as well. Subsequently, I installed a full-flow oil filter kit from Wag-Aero, which has resulted in an extension of oil changes from 25 to 50 hours.

I usually fly my plane about 300 pounds under gross. At its best rate-of-climb speed of 90 knots, I'll get about 1200 feet per minute at sea level. I use a cruise climb speed of 105 knots, resulting in an average climb rate of 800 fpm. Unless I'm in a hurry, I cruise at about 68% power and get a true airspeed of approximately 133 knots, burning a little under 10 gallons per hour block to block.

Since most of my flying is local, with occasional trips of 500 to 1,000 miles, this performance suits me fine. I would have to pay a lot more to get another 20 to 30 knots cruise, and it just wouldn't be worth it. I would like to have more range, especially for extra margins in IFR (Instrument Flight Rules) weather, but the occasional added fuel stop is no big deal.

I love the way the Tiger handles. Even taxiing it with the canopy open is fun. Airborne, the control feel is



The Tiger cockpit boasts great visibility, but can be hard to keep dry while loading on a rainy day (Keith Connes photo).

light and the plane is extremely responsive. It handles well in the slow flight regimes, but does not want to come down. Deploying flaps causes a pronounced pitch-up, but it takes a while for the plane to get the message that it's time to land. Approaches are made at 65 to 70 knots. Straight-

ahead stalls are very gentle with the flaps down; with the flaps up, there is a sharper break, but nothing scary. Spins are prohibited, as are other aerobatic maneuvers.

The visibility is superb. Some of this, alas, is at the expense of panel space; the panel is certainly adequate for IFR equipment, but has presented some problems for this gadget-crazed author.

The cabin is snug, and two large people sitting side-by-side might feel cramped, but Anne and I are of moderate size and feel quite comfortable. The seating is not luxurious, but I am not fatigued even after long trips.

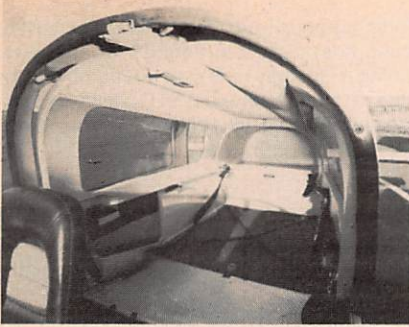
The noise level is about average for a plane of this type; I measured it at 90 db/A. However, "average" is still too high for comfort and preservation of hearing, so Anne and I use headsets and an intercom.

I was somewhat concerned about possible corrosion in an engine that had been exercised so little prior to my purchase, by the Lyc has hummed along smoothly so far. I have not experienced carburetor icing as yet.

My home base airport is known as "the crosswind capitol of the West," and it's no novelty to see the sock standing straight out at a neat right

The Grumman Tiger has tremendous ramp appeal, according to many owners (Keith Connes photo).





The back seat of the Tiger can be folded down for hauling cargo (Keith Connes photo).

angle to the active, but the Tiger is quite controllable despite its castering nose wheel.

For my money (literally, this time), the Tiger is an excellent choice for someone who wants a used airplane whose performance is close to some of the retractables, but whose purchase and operating costs reflect its fixed-gear, fixed-pitch-prop design.

There is the matter of spare parts for an airframe that is no longer being manufactured. Knock aluminum, I have not been faced with that problem to date. I have heard that parts from Gulfstream Aerospace (recently bought by Chrysler) can be outrageous, but other vendors are competing on some items, and there are always the aviation wreckers.

Above and beyond these practical considerations are such subjective elements as appearance, handling, canopy, etc. I happen to like 'em all in the Tiger.

The plane was manufactured from 1975 to 1979. In 1977, a so-called "Quiet Please" package, consisting of extra soundproofing and thicker plexiglass, was installed at the factory, and corrosion-proofing became standard. Also, the tubular nose gear strut got a shock absorber. The '78

model was given a re-designed interior with more comfortable seating, plus a separate hydraulic parking brake system and an improved over-voltage protection circuit. For '79, the simple twist-type fuel caps were replaced by those of "flip-top" design — not a real improvement, since the latter are less rainproof.

Asking prices currently run from about \$23,000 to \$30,000.

If you are interested in a Tiger or other Grumman American model, you should consider joining the American Yankee Association. Membership is \$20 a year plus a \$5 initiation fee. The address: P.O. Box 3052, Everett, Wash. 98203. Among the GA modifiers are Air Mods N.W., P.O. Box 8, Snohomish, Wash. 98290 (206) 691-7634 and Ameromod, Building C-64, Paine Field, Everett, Wash. 98204 (206) 353-3559. ■

ownerReport: The Grumman AA-5

Grumman American AA-5 owners responding to a recent *Aviation Digest* survey expressed unanimous satisfaction with the four-place, single-engine plane that evolved from the two-seat Gulfstream American AA-1 Yankee. Designed by light plane innovator Jim Bede, the aircraft has held up well over the years despite some delamination problems and the need for better brake and propeller designs, according to owners.

Opinions as to the AA-5's fitness as a trainer vary widely, but virtually all owners reported its flight handling characteristics to be a major selling point — provided the plane's fighter-like responsiveness is matched by commensurate pilot skills.

Economy of purchase price and operating expenses (including annuals that work out to a dollar or two a day) also received frequent mention, and performance was rated by most to be more than ample for the investment. However, the AA-5 was seen as somewhat short-winded for the cross-country needs of many owners.

The AA-1 Yankee Clipper, a two-place trainer powered by a 108-hp Lycoming, launched the AA line in 1969. About 460 units were produced before the AA-1A came on-line in 1971. During the next two years, 470 of the -1A model were turned out. The AA-1B was introduced in 1973, and from then on a parade of name and engine changes followed: The AA-1B-Basic in 1975; the AA-1B-Advanced in 1976; the AA-1C T-Cat in 1977; and the AA-1A and -1B TR-2 series, produced from

1972 through 1976.

The trainer was stretched to a four-place configuration in 1972, and that derivative was called the AA-5 Traveler. About 250 Travelers were sold annually through 1975, and a beefed-up (180-hp) version named the AA-5B Tiger was introduced in that year. The AA-5A Cheetah, similar to the Traveler and sharing the same 150-hp Lycoming O-320-E2G engine, was unveiled in 1976.

Sales of the Tiger continued to top 200 units per year until production was suspended in 1979.

The following ownerReports include name of owner, year of aircraft manufacture, and city and state of residence. Due to space restrictions, some of the reports have been abbreviated.

... Speed and Performance: I fly about half my air hours cross-country and generally plan my flights at 110 knots true airspeed, at 2,300 to 2,500 rpm. The owner's manual is very complete and its figures for rate of climb, cruise and fuel consumption are reliable. I seem to burn seven gallons per hour plus a gallon or two for warm-up and taxi.

With the airplane loaded with full fuel (52 gallons), four passengers (two children) and baggage I have it near or at gross weight. Its takeoff and climb performance have been equal to or better than the book value.

Visibility is unequalled with the large sliding canopy and window area.

Handling: Ground handling has been superb. The free-castering nose wheel allows the airplane to be turned around inside its own radius.

I have had chrome discs installed and the brake pad wear has dropped to nil with an increase in braking ability.

Handling in flight is light, quick and responsive. It is a real pleasure to fly. With the autopilot/wing-leveler and proper trim, cross-country flying is virtually hands-off.

Safety: There seem to be a number of statistics which point a finger at these planes as being unsafe. A personal opinion is that it could be due to inability of students to land it on the main gear which can easily result in a porpoise. In good wind conditions, I can easily "grease it on" every time so I don't understand why anyone could feel that it would be hard to land.

In summary, it seems as though there is almost nothing that I don't like about the airplane.

Paul Kranz
Harvard, Mass.

... I own the Grumman AA-5 Traveler going on two years, and have just over 100 hours flying on it.

The AA-5 has many good features, they are as follows: 1. Fast cruise speed. 2. Low fuel consumption. 3. Low maintenance cost. 4. Exceptional clean, sporty appearance. 5. Comfortable seats. 6. Good instrument panel and control layout. 7. Century I autopilot.

On the negative side the AA-5 has: 1. Plastic and fiberglass parts that develop cracks, but the fiberglass can be repaired easily. 2. The horizontal stabilizer is shorter than later models which indicates that it may be inadequate under certain conditions. But I have found no problem at all with control and stability.

Over all, the AA-5 is a fine machine and will give a good performance if flown with care.

Robert S. Herdman
1975
Blairstown, N.J.

... In the three years I've owned it my only major expense has been a new mag which was needed to solve a starting problem. A previous owner dinged a prop after going into a gopher hole. This is my only real criticism: "Use caution when taxiing on rough ground because of limited prop clearance."

We live in a mountainous part of the country and I never fly with more than three on board because of this.

There are many features that I favor over other light aircraft such as: Cockpit visibility, instrumentation layout, easy to maintain, low cost to maintain and operate, performance—responsive, reasonably fast, good crosswind landing characteristics.

I'm totally satisfied with my AA-5 and am just in the process of checking out my 17-year-old son.

Ray Sowerby
1972
Kelowna, B.C., Canada

... Very easy flying and forgiving plane. Have had many enjoyable hours with it. It's a shame that such a well-built and performing aircraft has been discontinued. Especially since insurance companies discriminate against planes whose manufacture has been discontinued by charging *much higher rates!*

Gordon Starr
1974
Van Nuys, Calif.

... I do not think that there ever has been a better design for the *horsepower*. My Yankee with 108 hp cruised all day long at 130 mph and the Traveler with 150 hp does 140 mph cruise. And both of them have had less maintenance expense than any other aircraft I've owned (seven of them). I'm ex-Air Force (25 years) and am of the opinion that nothing in the air flies better.

My biggest complaint is leaking fuel tanks. I've had to have my left wing sloshed twice — and it's leaking again — and now the right one is oozing out a trickle. But, the designers were astute enough to position removable plates so as to gain entry for the purpose of sealing. Outside of that, my AA-5 is a great airplane with almost 2,000 hours on it, and it looks great also with upholstery that still looks new.

Edward A. Walsh
1975
Panama City, Fla.

... I very much enjoy the Grumman. It maneuvers very well, and the visual aspect is exceptional. The airspeed is great considering the size of the engine. Probably the only negative would be the nose

wheel style. We've had some vibration from it but have corrected it by tightening. The sliding canopy is nice and fortunately haven't had to open it when it's been raining. Hopefully I will start IFR training in the Grumman soon. And since we got (an autogas) STC which is another plus, it should be less expensive. Over all, I enjoy this airplane very much.

Scott Strable
1974
Celina, Ohio

... I purchased my '74 Traveler with a high time engine and had it rebuilt within the year. The rebuild cost \$6,000, the airplane cost \$7,000 and I have another \$6,000 to \$7,000 in misc. stuff (including windows, interior, Loran, etc.). Because of its reputation for poor performance in high density altitude situations I had the props re-pitched and installed a Dastron 5-in-1 gauge which reads out density altitude. I'm satisfied with the performance and the reliability. I get book speeds and fuel flows even with the 56 degree props. ... The flaps are basically ineffective but I find I can slip almost to the flare if necessary. In actuality I found the lack of large flaps to be a concern only during my transition from 172s and you quickly get used to the smaller Grumman flaps. The plane seems to require less maintenance than the 172s I used to fly.

Greg Sincock
1974
Thousand Oaks, Calif.

... The plane itself was not that hard to learn in after leaving the 150 Cessna. It was like sharpening a dull pencil. Your skills just had to be sharpened a little. I really liked the handling of the plane as I could put it down on a dime if need be. One thing though in this regard: I had to watch how I was going to get it out, after I got it in.

It just needed more power and STOL performance. A CS prop with about 200 hp would really liven things up I am sure. One place we really noticed this was on outings to the Southwest a few years ago. I had never flown out west in the high elevation out there. Here is when density altitude really played havoc with performance on the AA-5. Here in the East I usually fly around three to five thousand feet. Out there you're five thousand feet before you get off the ground. This was in the middle of summer, crossing the deserts of New Mexico in the middle of the afternoon. ... Like everything we can always find fault, but for the money angle I don't see how you can beat it.

Benjamin W. Kulp
1974
Akron, Penn.

... Although I am not an aviation authority I have had occasion to fly Cessnas from 150s up and through 310s, which I presently operate for a corporation, and did purchase a Warrior new.

Now down to the Good/Bad: First the Good. Speed, visibility, handling (ground and air), operational costs, normal annual fee, and load-carrying capabilities. The AA-5 is a solid 130-mph (indicated). At 8.5 gallons per hour average and with a five-hour makes it pleasingly affordable to fly, compared to other planes I have flown and owned in its class.

Now for the Bad: Can't think of any. But I am biased and prejudiced. I just plain like the little bird.

I have read many of the "negative reports" published on the AA-5s. However, if careful attention to procedures, limitations, and conditions are practiced, as with any aircraft operated, I find these negative reports just as biased and prejudiced as I.

Terry J. Smith
1975
Woodland, Miss.

... Other than parts availability, I feel that the Grumman AA-5 is still the best 150-horsepower, four-place, fixed-gear aircraft produced of its kind.

Sheridan S. Sheiner
1973
Montgomery, N.Y.

... I have owned my plane for approximately 5 1/2 years and have been very pleased with it. For its class of airplane (150 horsepower, four seats, fixed gear and prop), I think it is the best on the market. It is well built, maintenance costs are low by comparison, and is very responsive in the air.

Like most plane owners, I would like to upgrade, and if I did it would be the Grumman Tiger! I would like to be able to carry a little

“... This aircraft has averaged less than \$450/year for annual inspections and under \$1,000 for all maintenance . . . ”

more payload, but I am an ardent Grumman fan.

Louis Martin
1974
Huntsville, Ala.

... It is a great aircraft, fun to fly and economical to maintain and operate. Plenty of room and the most comfortable flight plane I have ever flown — very stable and handles great on instruments. The only place I would look unfavorably toward it is the useful load, with full fuel is only 633 pounds; so if you fill the four comfortable seats you better have small people. I really do not know anywhere else you can get this much performance out of a 150-horsepower engine.

Jarry Morris
1975
Jackson, Miss.

... Very well pleased.

I have been flying since 1944 — and I think this is one of the nicest small planes I have flown. You do have to fly it, and not leave it get ahead of you. It is the cheapest overall in all regards to operate per year, for the pleasure it gives.

James R. Shannon
1974
Reynoldsburg, Ohio

... I chose Grumman because I wanted to go faster without increasing engine size, economy over my 172.

So far no surprises — no maintenance problems — I love my fresh air canopy with good visibility and no moving of seats on entry or exit and holding doors open during summer taxi.

Handles much like my Cessna except landing without big flaps hanging down made me overcome my laziness!

Found severe crosswinds much easier than with my old kite.
Too bad Grumman quit light aircraft — they had a better idea.

G.M. Oestreich
1974
Moses Lake, Wash.

... I think my AA-5 is one of the most economical aircraft flying today.

Rhan Walker
1975
Raytown, Mo.

... Good performer, been flying this one since '74. Also, at one time, owned a '72. Used both in a flight instruction program for six years. Also a lot of instrument flight. None of the problems that the world likes to talk about have ever been encountered by me, in one of these airplanes, and I've had them in just about every conceivable situation possible. I've performed some aerobatics, including spin entries, with no problems.

Problems: Availability of parts; plastic parts both interior and exterior, crummy.

Negative comments: Short fuel loads are a pain. Bonded construction did not work. Takes a lot of "character" to keep one flying. They'll test your patience and perseverance.

B.J. Freeman
1974
Boynton Beach, Fla.

... Have owned aircraft for five years. Enjoy flying this small aircraft very much. Would prefer this one above all others within the same class. I have a total of 390 hours in this aircraft.

Joe E. Dyar
1975
Hamilton, Ala.

... Our club (S.A.F.E.) has found the plane to be a very well behaved easy to maintain aircraft. The only problems which have been found

were spark plug fouling and poor cabin heating (partially caused by the poor cabin seals). The plug problems largely vanished when we were able to switch to unleaded auto fuel. As this is a good trainer for VFR/IFR as well as a reliable source of transportation we only regret that the line of aircraft is no longer in production.

S.A.F.E.
1973
Sudbury, Mass.

... I have been extremely happy with this airplane. It is responsive yet forgiving. I've owned it for five years now and it is what I received my private pilot's license in. It is economical on gas and with an STC I can fly more cheaply than drive.

Paul W. Rutter
1973
Midland, Texas

... Good: 1. Low maintenance cost. 2. Economical per hour operating cost. 3. Light control pressures, very responsive. 4. Excellent structure.

Bad: 1. Removal of performance wings for AA-1 series and above. 2. Airworthiness Directive, later rescinded, requiring aileron modification to prevent shudder, this should have never been required, increased drag. 3. Top engine cowling front inset screw should be periodically checked for near upper cowling could come off in flight. 4. Cabin noise level high.

Clarence A. Edmonson
1974
Pawhuska, Okla.

... Owned an AA-15 1974 for about four years. No major problems. A great flying airplane, only wish I could fly more than I do at the present time.

George L. Bolton
1974
Reading, Penn.

... Love it!

It's my first airplane. I bought it only six months ago, so I haven't had much experience. However, I'm 5' 4", and it's the only power plane that I *haven't* had a problem with seat adjustments, visibility or yoke travel. The controls are fairly light for a power plane, too, which I (a former glider pilot) really appreciate.

Mine had 1,600 hours total time, airframe and engine, when I bought it and I've put 50 or so hours on it since then. I paid \$11,000 for it. The only maintenance problem (non-avionics) that I've had was a worn out impulse coupling on the mag. It took me a little while to learn to keep it (the engine) lean enough to prevent plug fouling, so I will be installing an EGT soon to be certain that I'm correct on the mixture. Since the plane was run on 100 octane LL before I got it, I expect to be doing work on fuel tank seals in the next couple of years. (The epoxy in the tanks, I've been warned, does not go well with the 100LL additives.) I try to use 80 octane only.

I think the sliding canopy is great, but recommend a canopy cover for an outside tiedown. (The seals may seep some and freeze, which is no fun.)

The maneuverability on the ground is fantastic, too. The prop clearance is low, however. Still, all the Cessna folks are really impressed with my maneuverability around the gas pumps.

I think that its reputation as a "hard to fly" single is undeserved. I am a very low time pilot (in power) and have found it quite agreeable. It is not, however, a Cessna 172 and does not tolerate people who try to fly it like one. My biggest problem has been finding instructors who are current in the plane *and* comfortable with it.

I do have a healthy respect for it, however, and am bothered by the fact that it is not certified for spins. I haven't found any problems with seeing a stall coming, however. I suggest that prospective Grumman Traveler owners get well acquainted with stall recovery and spin

“ . . . Interior window trim is really cheap; canopy is cantankerous when not freshly lubricated . . . ”

entries, especially those in a takeoff configuration in another aircraft.

Kristen A. Farry
1974
Waynesville, Ohio

. . . I took delivery of my Grumman Traveler in the Spring of 1975. It is my seventh airplane — my first purchased as a new aircraft. Still a 10.

One mag had to be replaced early on. My wife took all her time in our Grumman and obtained her private ticket. We have over 500 hours on the airplane since new. It has been carefully maintained and dotted on.

One stabilator had to be replaced in 1985 due to bending separation. This expense had to be borne by the owner.

Robert A. Benninger, MD, AME
1975
E. Liverpool, Ohio

. . . I've owned a 1977 AA-5B (N28462) for three years and put 300 hours on it. The only maintenance problems involved valves and magnetos — the airframe was maintenance-free. The plane is a joy to fly.

W.B. Gardner
1977
Duluth, Ga.

. . . I have almost nothing but praise for this plane — 10 to 15 mph faster than its Piper or Cessna counterpart, excellent visibility including over-the-nose, and quicker and more positive control responsiveness. Parts availability has not been a serious problem, at least so far. The free-castering nose wheel, a bit awkward at first, becomes second nature in no time and in fact improves ground maneuverability, although it makes the plane difficult to move around — especially backward — by hand. The plane's only weakness I would mention — and this is far outweighed by its strengths — is that inside-the-cockpit accessibility to service items is difficult. For example, it takes an hour or so to take the front seats out. This is a bit strange, actually, since the cockpit is fairly roomy. Also fuel capacity (37 gallons usable) is not quite enough, but I understand this was increased in later models.

Paul Cross
1975
Sewanee, Tenn.

. . . Lay-down seats in back are convenient. We carry 10-speed bicycles in back. Airframe maintenance is nil. Only engine, radios and accessories have required work. Engine access is very easy. This facilitates thorough preflights. The 150-hp engine requires only 80 octane. This permits use of auto fuel STC and fuel cost savings.

Rolla R. Wade
1972
Kingsport, Tenn.

. . . Compared to Cessna 172 we owned before, the Grumman is: cheaper to own and fly; faster; far more fun; far better in gusty/crosswind conditions; visibility is much better; but Grumman has marginal takeoff and climb performance (plane is based at 1900-foot strip).

Dan DeLong
1974
Toney, Ala.

. . . of all the airplanes flown, I enjoy the Cheetah the most. Regardless of *Aviation Safety's* report, it is not an unsafe craft. I purchased N707P in March 1976, went to the factory to get it. I have never regretted the purchase.

Their safety report is a "little bit" distorted and every accident is blamed on the aircraft when God knows the dummy that is VFR and flies into IFR conditions knowing better is at fault, certainly not the aircraft.

According to the *American Star*, there is soon to be a compilation of every accident or incident of the line from the original Yankee on — so this should be of interest to you in preparing an article on the GA line.

Roy S. Parks
McAllen, Texas

. . . I've flown the plane for 500-plus hours and it seems better each year.

Good points: Handles beautifully; extremely light positive response, especially ailerons and elevators; good climb and cruise speed; decent fuel efficiency — average flight, 9.6 gallons per hour at 138 mph; will carry full fuel (5.2 hours 'til dry), two 150-pounders, two 130-pounders and 65 pounds of baggage; outstanding visibility and openable canopy is great for taking aerial photos; reasonably maintenance-free and easy to work on.

Bad points: Interior window trim is really cheap; canopy is cantankerous when not freshly lubricated; eats brakes up quickly, usually within 100 hours (new stainless rotors will help this problem); maintenance headaches — broke an exhaust valve off at 1650 hours, destroyed piston and cylinder head, CHT gauge is a must.

Safety tips: Don't come in too hot on a short field and don't come in too slow when heavy or in turbulence; don't ever land it on the nose wheel first.

Maintenance tips: Keep canopy tracks well lubed; Aeroshell W15-50 really cuts down oil consumption; make sure to lean engine quite a bit when ever on the ground — plugs will foul easily with full rich mixture when taxiing.

Final comment: I really enjoy the Tiger because it is a quick, responsive, simple and useful airplane. Its only real drawback is that it's out of production.

Steve Fricke
1976
Los Angeles, Calif.

. . . I have owned 1366R (1975 AA-5) since September 1977. It was converted (basically) to a AA-5B (Tiger) the later part of 1980. The original flight tests for the 180-hp conversion indicated it was a bit faster and had a slightly better climb than a stock Tiger. The aircraft received a Sensenich prop at the time of the conversion. On its flights for the FAA it was clocked at 173 mph flat out over Pudget Sound (Seattle, Wash.). My wife learned to fly in this plane and received her ticket when she was in her 50s. It is an easy plane to fly and has outstanding performance, it is flown IFR, has Century II autopilot, consistently burns 9 gph (block to block) and trues 133 knots (2500 rpm at 10,000 feet). It had bonding and upholstery problems which the factory repaired or replaced *free*. Both fuel tanks developed leaks later on and I have had to stand those expenses. I have had no other maintenance expenses except for normal avionics failures and such things as brakes, tires, plugs, air filter and ELT. The aircraft is flown only 100-plus hours per year. It is kept hangared which certainly helps out in the maintenance department.

John F. Lorence
1975
Independence, Ore.

. . . I purchased a GA-AA-5A Cheetah (N26237) March 1984, 1000TT, King radio package, long range tanks, 51 gallons usable. Empty weight 1,404 pounds, which equals 475 pounds cabin load with full tanks.

Have found it delivers book performance and on cross-country legs at 6.5/7.5 cruising altitudes I run it around 2500 rpm and get 115-120 knots and 8 to 9 gph.

Been through two annuals, strictly routine, \$350 to \$400. No major problems, easy to work on, its quiet, fun to fly, great visibility — autogas will save you bucks. Fly it by the book i.e. 65 knots, full flaps, normal approach, and you won't have the overshoot, porpoise problems that show up on the accident reports . . .

Richard H. Johnson
Lynden, Wash.

“... Fly it by the book... and you won't have the overshoot, porpoise problems that show up on the accident reports...”

... I have owned my AA-5 Traveler for six years and put over 1,000 hours on it. The aircraft is used mostly commuting between Main and Mass. with occasional trips to Florida. While proving excellent transportation for short trips around New England, the AA-5's 130 mph cruise just doesn't make it a practical cross-country airplane.

For my particular application I find the Grumman hard to beat. It is by far the most dependable aircraft in its class, I have experienced only two-week down time in six years. It is also the most economical aircraft in its class 130 mph at 8 gph, and the real economics is reflected in the low maintenance cost. This aircraft has averaged less than \$450/year for annual inspections and under \$1,000 for all maintenance including annual inspection.

As for flight characteristics, the AA-5 is a fun airplane to fly; its high roll rate and quick response is analogous to driving a sports car...

John Florentine
1974
Harrison, Maine

... My AA-5 has been an excellent little plane with very low maintenance costs thus far. Nothing major has gone wrong with it in the eight years I've owned it. With almost 1500 total hours on it, it is still in very good shape. My only complaint is its lack of range, and relatively low useful load. Nevertheless, I can still cruise at 115-120 knots and burn only 8 gph, so it's been a very economical plane.

Dudley W. Blari
1975
Seneca, S.C.

... I've flown my Grumman Tiger over 750 hours in the last four years and have been quite pleased with its performance. It is fun to fly — responsive to the controls — handling is much nicer — more snappy — than a 172 or Warrior. I usually climb with the top slid back on very hot days. Because it is so responsive, it is less stable, and you have to be careful when looking down at charts, etc., that you don't suddenly slip into a 30-degree bank — having a wing level autopilot helps a lot, especially on demanding IFR flights. I have read that Travelers tend to float on landing, and that you have to watch your speed carefully on approach, but my experience has been that the float has never been a problem — with a steep slip with full flaps you can drop it down very quickly if needed — under good control — with just a little experience. I usually get 120 knots true at 7500 feet...

I've had trouble with leaks from both fuel tanks — at one point the mechanic actually had to take off the wing to repair it. I've had several cracks into the windshield that were drilled to stop them. I needed a top overhaul after just 500 hours on a Skyways (of Oregon) remanufactured engine — unusual, I understand. I wrote Skyways, they picked up part of the tab. I've had electrical problems off and on with the landing light; that seems improved now, many fixes later...

Chip Kaplove
1975
Oakland, Calif.

... I have been very happy with my plane, easy to maintain, cruise range long enough for me (3 hours) and have enough left to land in safety.

M.S. Aguilera
1973
Los Angeles, Calif.

... Wing and horizontal stabilizer bonding delaminated in 1981 (five years out of warranty); wings, etc. were replaced free of charge (except for freight \$1,000) by Grumman factory. Dorsal fin (plastic) cracked badly in extremely cold weather (minus 15 degrees F) and cost \$300 to replace. Otherwise, just normal maintenance and repairs.

Very pleased with performance and economy of operation after owning for 11 years...

Ronald R. Howe
1975
San Diego, Calif.

... I have been flying a Grumman American Tiger, Model AA-5B, (N28638), over the past four years. The airplane had 700 hours on it when I acquired it; it now has 1200.

I have found the airplane to be very reliable and relatively trouble-free. The Century 2B autopilot has been very troublesome but I consider this to be related to the autopilot and the service capabilities of the people looking after it more than the airplane itself.

In 500 hours of flying we have had the airframe go completely out of trim once. We have replaced the flap motor once. We have had no difficulties with any type of skin separation.

Thomas H. Winkleman
1978
Western Springs, Ill.

... We have owned subject aircraft since purchasing brand new in July 1977. We have had no accidents with the aircraft nor any major problems in 2200 hours of flying time. It has been a terrific airplane to fly — both VFR and IFR... During a recent annual inspection, it was decided that a couple of the aileron bushings were slightly worn so they were replaced, but we have never experienced any of the problems with aileron flutter or such that there has been much talk about... In general, it has simply been an excellent flying aircraft and we have really never had any problems. We did have the original old style spinner which cracked a couple of times and we finally replaced it with the new heavier style and have not had any problems with that since.

Edward L. Martin Co.
1977
Shawnee Mission, Kansas

... I have owned a 1977 GA Tiger, N28557 an AA-5B, serial # 680, for just over 5 years. During that time I have flown it about 750 hours. I use it mainly to commute from my home in NE Arkansas to St. Louis where I work as a First Officer on the Boeing 767 ETOPS operation. Previous to the Tiger, I owned a 1969 Mooney Ranger and then a 1970 Cessna 182 Skylane. I cannot make a comparison between the Tiger and those planes as far as speed or hauling ability but when it comes to the pure pleasure of flying, the Tiger is without peer. It is just plain fun to fly. It seems to turn more heads when it arrives or leaves than other planes. From certain aspects, it is very pleasing to look at. It also photographs nicely.

My experience with owning the Tiger has been very satisfying. It has been very economical to operate and has had no major mechanical problems. Replacing the muffler and installing chrome have been about the most expensive necessities...

Eugene N. Hammon
1977
Paragould, Ark.

... I have just had the engine overhauled at just over 2200 hours and it was still running strong at that time. I have to replace the windshield now before I fly it again so it will be a month or so before I get it back in the air. It is a well equipped plane and I am IFR rated.

In a nutshell, it has been a great plane and lots of fun. I use it in business and pleasure and it really helps even make the business part a pleasure.

I feel sad that it is now an orphan and some parts are getting harder to find. So far, though, it has not been a problem. The AYA association has done a lot to help in that regard, and anything that I have really needed I have been able to locate. Other small items I have been able to make easily...

My largest problem was with that composite float in the carburetor that there were problems with a while back. I had an engine failure in flight when the float sunk. I was able to regain partial power after a while and make a landing at Kingman, Az., but it was really a frightful experience for the first 10 minutes or so until I was able to get some power in...

Robert F. Chicca
1978
Bonita, Calif.

"Other than parts availability, I feel that the Grumman AA-5 is still the best . . . aircraft produced of its kind."

... I have owned a 1978 Cheetah (AA-5A) for exactly four years now and have flown it a little more than 400 hours. And I love it!

Probably its greatest asset is a little more speed than other similar airplanes. I consistently get 120 knots true at 75% and 115 knots at 65% power settings . . . My annuals run about \$300.00. The only major maintenance problem so far has been the necessity of replacing a mag and then having the same one rebuilt about a year later. A minor maintenance irritation is the cracking of plastic wheel pants and dorsal fin . . .

For other Grumman owners I have some suggestions. Install an alternate source if one is not already there. (I had both static ports freeze up after taking off from a wet runway once.) Ditto for a baggage door which would give an emergency exit in case of a roll-over. Be careful of snow or slush covered runway if wheel pants are on. (I had one freeze up solid, not allowing the wheel to turn on landing, blowing a tire, but no other damage.) Join the American Yankee Association, P.O. Box 3052, Everett, Wash. 98203. It is the association for owners of all Grumman light planes and publishes a very informative bi-monthly newsletter.

Norville R. Pervier
1978
St. Paul, Minn.

... Overall: Fighter-plane superb —smooth, quick and effortless maneuverability. Hard to imagine a more fun-to-fly airplane. Visibility and "feel" are outstanding.

Landings and Takeoffs: Consistently good (safe) landings require careful approach-speed control and one is well-advised to get in the habit of perfecting short field landing techniques due to the "slippery" quality of the airplane and the lack of truly effective flaps. A few knots fast on final could cost a few hundred feet of runway. Fortunately, the airplane can be slipped dramatically right down to a low flare. The plane is sensitive and responsive — definitely not for students as it tends to get away from those who have not learned to anticipate and use *gentle* pressures. Crosswind landings, until one gets used to them, can be trickier than usual due to the castering non-steerable nose wheel and the tendency of the plane to weather-cock. Crosswind (downwind) braking becomes automatic after a while.

Value: Head and shoulders above anything in its class . . . It is the poor man's P-51.

Joel Elman
1974
Atlanta, Ga.

... I would rate the speed of the ship as outstanding with an average cruise speed of 157 mph on 10 gallons an hour block to block. One can average about 9.7 gph on extended trips of legs of 3.5 hours or more with just average leaning procedures.

Its bad points are few. The canopy will leak water in blowing rain and owners must jury rig the seal with an outer seal to prevent leaking unless the canopy is exactly adjusted. The brakes are easily worn unless chrome disks are used.

The Tiger is one of the most cost effective airplanes in the world. I have tried several times to move up to a Cessna 210 or Bonanza but their cost of operation exceeds the advantage in speed and utility. I'm stuck and glad of it. I can operate the Tiger at \$34.00 an hour wet with a block to block speed of 122 knots. The efficiency speaks for the airplane.

Coleman M. Absher
1977
Plantation, Fla.

... We bought the AA-5 in 1975 and have enjoyed the plane very much. Of course, the major item on the plane has been the small maintenance. It handles and operates as good or better than any plane in its class. I have flown the Yankee, Yankee Trainer, TR-2 and quite a number of the Travelers. Flying them new from company near Cleveland, Ohio, where they were built at one time to the dealer.

I have always respected them very much. Hoping someone will start building them again.

Truman L. Miller
1974
Shipshewana, Ind.

... I can cruise along at 135 mph true airspeed at 6000 feet on only 8.0 gph in this aircraft which has 1700 engine hours, no wheel pants, no speed kit for the fairings, etc. This is a real plus considering the price of fuel these days.

Another real plus for Florida pilots is the sliding canopy. During the hot summer, when taxiing or practicing touch-and-go landings, it's terrific to slide the canopy back and let that big fan up front keep you cool.

During the early days of the AA-1 two place Grumman, one model had some bad spin characteristics until a design correction was implemented. Unfortunately, this has given all Grumman a bad reputation via the "hangar flying" group over the years. Untruths abound concerning these great little airplanes and the American Yankee Association of Grumman owners (I am a member) are planning to fight back because this nonsense hurts us in the wallet. The publication, *Aviation Safety*, gave the AA-5 series a poor rating based on landings and the canopy. They said, "A sore spot was hard landings. These might be attributable to the notorious porpoise of the AA-5, letting the nose fall through at too high a speed." I find that statement incredible because any airplane will porpoise if you land it on its nose wheel! They failed to mention the terrific crosswind landing qualities of the AA-5. Another negative from *Aviation Safety* said that the canopy would jam in a crash if the airplane flipped over making egress difficult or impossible. They failed to mention that the canopy can be flipped back if you are making an emergency landing.

Emory E. Street
1973
Melbourne, Fla.

... I have one of the original AA-5 Travelers made in Cleveland, Ohio. I understand it was built in Cleveland shortly after the acquisition by Grumman, but I do not know for certain as its nameplate states, "American Aviation Corp." Nevertheless, the aircraft has been very easy to own. Annual inspections are simple (usually) and since I do most of the work myself they average \$75 to \$100 . . . I purchased the autogas STC from Peterson Aviation in Minden, Nebraska. I chose this STC over the autogas STC from the EAA for the simple reason that the Peterson STC allows the use of leaded regular auto fuel. I have used both leaded and unleaded regular auto fuel and the engine runs perfectly. No modifications are required for the aircraft other than attaching the fuel labels to the tanks and a tag on the engine. Since unleaded auto fuel contains toluene it is heavier than avgas, by about 10 percent. As a result, a gallon weighs more and fuel consumption in gallons is about 10% less (an additional benefit from using autogas which most people are unaware of).

David B. Meinhardt
1973
Palo Alto, Calif.

... The sliding canopy is nice, although prone to leak around the latch and key hole. It also sticks if not kept lubed or operated regularly . . . Fuel consumption has been around 8 to 9 gph, about what the book calls for the type flying I've done. I have no complaints so far. The Traveler is quick and responsive, and if you can find one in good condition, a real bargain.

Robert Jones
1973
Hillsboro, Ohio

... One of the major deterioration factors here in South Florida is corrosion due to humidity and salt air. The aircraft has had the wings and interior surfaces coated with XP-400 to minimize corrosion. Some models have had delamination problems, but I have had to make only a minor modification. The trailing side of the left flap had

"It's a shame that such a well-built and performing aircraft has been discontinued."

one spot about an inch or so where there was a problem . . . I have also had to repair the left front seat track. Standing on the front edge of the seats while entering the aircraft puts an undue stress on the already delicate tracks.

Overall, I would say the Grumman is an excellent aircraft. It would make a great trainer since it is so easy to fly . . . If I were asked what could be done to improve on the aircraft, I would be hard-pressed to give an answer.

Richard G. Ruggles
1974
Hialeah, Fla.

. . . There have been no major problems with the aircraft since I purchased it in October 1984 . . . The aircraft appears to handle well and is rather comfortable to fly . . . It has a tendency to "float" on landings, especially when loaded to gross.

I am very satisfied with the aircraft and would consider it a bargain for the price that was paid for it.

Richard K. Renn

1973
York, Penn.

. . . I believe this aircraft is one of the nicest flying general aviation aircraft ever designed. It lands like the WW II B-25 that I flew in combat — grease job every time. It gets better speed and gas consumption than any other 4 place, 150 hp aircraft and has fewer ADs on it.

The major drawback to the aircraft is the availability of parts. The Gulfstream Corporation still provides parts but at outrageous prices. The only source of affordable parts for the airframe seems to be from salvage companies. Repairing the glued parts of the airframe takes specialized experience. Fortunately, there is a type organization of owners that helps to locate needed parts. It is too bad that a company such as Univair does not acquire the rights to this airplane as they have done for so many others.

Lt. Col. Thomas R. Cook, Jr. (Ret.)
1975
Panama City, Fla.

A 'transition rule' allowing a 10% tax credit on the purchase of many general aviation planes is expected to clear inventory held by beleaguered manufacturers in Kansas.

Tax Provision to Aid Plane Sales

A special provision incorporated in pending Federal tax overhaul legislation should benefit light plane manufacturers, according to Senate Majority Leader Bob Dole (R. — Kansas).

The provision, known as a "transition rule," will preserve the investment tax credit for private and corporate aircraft purchasers until the end of this year.

"Making the investment tax credit available until the end of the year should provide a real spurt in sales," Dole said.

The tax credit, providing for 10% of the cost of investing in new hardware, would be retroactively repealed under the tax legislation, but the light plane transition rule would provide exemptions for many aircraft purchased before Dec. 31, 1986 or placed in service by July 1, 1987. The

rule applies to aircraft with 19 or fewer seats.

"If this rule helps our (general aviation) manufacturers move the inventory, it could mean selling up to \$442 million worth of aircraft — more than has been sold the entire first six months of this year," Dole said. "By helping clear this inventory of existing aircraft, we are ensuring the viability of certain manufacturers to stay in business, and we all know that means protecting jobs."

Dole pointed out that the general aviation provision "does not involve the creation of new tax benefits," and called it a "perfect example of targeting relief to an industry which desperately needs it."

He also announced introduction of several other temporary tax provisions to aid his constituents in Kansas, where a large segment of the general aviation industry is headquartered. ■

Blimp Airline is Shot Down

When Resorts International purchased a \$4-million dirigible in July 1985, company officials disclosed hopes of buying larger blimps to carry passengers to Atlantic City, N.J.,

casinos from surrounding metropolitan areas.

But high operating costs have forced Resorts to sell its only airship back to the manufacturer as part of a strategy aimed at improving earnings.

The 200-foot blimp, which cruised along the southern New Jersey shoreline before thousands of beachgoers, "was an extremely effective and novel advertising medium," said John Donnelly, Resorts vice president and counsel. "But management made a decision that it was not cost-effective . . . The problem was not in the cost of gasoline and helium to run the blimp or anything like that. The expensive item is that there is an enormously expensive crew that must follow the blimp around." The ground crew consists of 17 technicians and other personnel.

Company officials said that, although the blimp has been sold back to the manufacturer, it will be leased by next summer to continue advertising for Resorts International.

The firm's former chairman, James M. Crosby, had a strong interest in air transportation; under his leadership, Resorts bought large blocks of stock in Pan American World Airways and attempted to buy Trans World Airlines. Resorts also operated two commuter airlines and a helicopter service. ■

Accident Log

SHIOCTON, Wis. — A Federal investigator reported that the crash of a Stinson in July, which killed both occupants, may have been alcohol-related.

Robert Leonard Heinz, 48, of Bancroft, Wis., and Ronald Alan Knops, 31, of Shiocton, were killed July 26 when the single-engine plane struck wires about 25 feet above ground level and crashed into an unoccupied house.

"The pilot was engaged in a very unauthorized, low-altitude flight at the time," said E.J. McAvoy, an investigator with the National Transportation Safety Board's Chicago, Ill., office. "I would suspect that his reasoning was somewhat distorted because of his blood-alcohol content."

McAvoy said the pilot was observed drinking beer at a Shiocton tavern, and later at a bar at the airport before the crash. The NTSB investigator said he was told friends persuaded the pilot to take Knops on a flight.

Heinz had a blood-alcohol level of .193%, according to McAvoy, and Knops had a blood-alcohol level of .116% at the time of the crash. Wisconsin law dictates that .10% blood-alcohol is proof of intoxication.

EPSOM, N.H. — The crash of an Aeronca Champ killed both occupants on the night of Saturday, August 16, according to authorities.

Federal investigators were attempting to determine why the aircraft crashed and burned, killing 42-year-old pilot Philip Lindh and 39-year-old Mary Miller, both residents of Epsom.

The plane crashed in a residential area, missing a house by about 100 feet. "His home was just a short distance from" the crash site, Police Chief Peter Burgess said. "It was his plane. It was a routine pleasure flight."

Witnesses said the aircraft was buzzing low over Lindh's neighbor-

hood before the engine was heard sputtering and the plane crashed.

According to Michael Ciccarelli, a spokesman for the Federal Aviation Administration, one witness reported that the pilot was apparently attempting to make an emergency landing in a field when the plane struck a tree.

STANWOOD, Wash. — Two persons were killed and two others were injured when a Beech Musketeer reportedly overshot the runway during a landing attempt at Reinig Air Park, according to Steve Kropp, assistant airport manager.

Kropp said the aircraft had made one approach before going around for a second attempt. The plane stalled and crashed into trees during the second approach, he said.

The Island County Coroner stated that the fatalities included a man and a woman from the Seattle, Wash., area. Another man was listed in critical condition at a nearby hospital, and a two-year-old boy was listed in stable condition.

JUNEAU, Alaska — Three California residents were killed in the crash of a Cessna 177, which struck a mountain at the 2,000-foot level on Hinchbrook Island, according to the U.S. Coast Guard.

The aircraft was on a flight from Homer, Alaska, to Valdez, Alaska, when it encountered fog, Coast Guard spokesman Mark Farmer said.

Crash victims were identified as pilot Glynn Lockwood, age 63, of Monterey, Calif.; Ron Heisman, a 53-year-old retired stockbroker from Carmel, Calif.; and Verna Miller, 54, a former real estate agent from Pacific Grove, Calif.

Lockwood was the founder of LTI Corporation, which later became Graco-LTI Inc., a subsidiary of Graco Inc. of Minneapolis, Minn.

FORT DIX, N.J. — A single-engine Piper Comanche crashed on a U.S.

Army artillery range on Thursday, August 21, killing all three occupants during a flight from Essex County Airport in Caldwell, N.J., to Salisbury, Md., FAA spokeswoman Kathleen Bergen said.

The accident occurred shortly after 3:00 p.m. local time on the Fort Dix artillery range, a 30,000-acre installation located adjacent to McGuire Air Force Base.

The pilot of the single-engine aircraft was contacted by McGuire Tower controllers, who notified him that he was straying over the restricted artillery range, according to Captain Douglas Draper, the base's public affairs officer. The pilot corrected his course, but then began losing altitude. Controllers notified him of the altitude loss, and the pilot then said, "McGuire, I need help," according to Draper.

A public affairs officer at Fort Dix said search and rescue operations on Range 59, where the crash occurred, were complicated because the aircraft crashed in an area used for mortar and small arms demonstrations. Consequently, Army ordnance crews had to clear the area of "duds" before medical personnel could be dispatched.

ROCHE HARBOR, Wash. — A homebuilt Glasair crashed on takeoff from Roche Harbor Airport, killing the pilot, his wife and their two-year-old son, according to local police.

Witnesses reported that the two-seat plane was departing from the airport when they heard a pop and saw the aircraft veer off into trees, where it burst into flames.

The sheriff's department identified the victims as Dr. Scott Kastner, age 36, of Chico, Calif.; his wife Rebecca, 36, and their son Benjamin.

The family had flown the aircraft to Roche Harbor as part of a group of 20 Glasairs on a trip from Chico, according to airport mechanic and pilot John Shealby.