Plane&Pilot

JULY 1976 $1.00

PILOT REPORTS:
CESSNA STATIONAIR II
CENTENNIAL TAYLORCRAFT
PIPER CHEROKEE 235

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presentatives of the FAA, the Department of Commerce, and the Department of Defense.

The Safety Board said it believes that the latitude allowed in preparation of the two published charts creates an undesirable degree of dissimilarity. While these variations do not necessarily create a hazard, the application of uniform criteria and uniform cartographic depictions would eliminate any areas of possible misinterpretation.

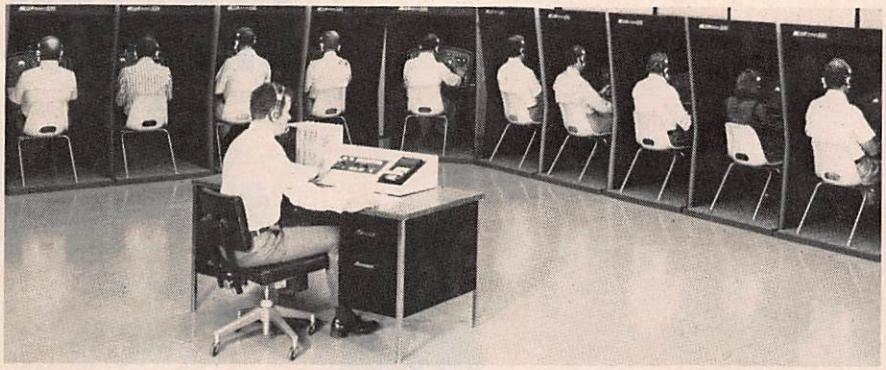
In order to insure that the best cartographic techniques are identified and employed, the Board concluded that both types of charts should be analyzed to determine the most effective specifications for instrument approach charts. Once identified, these specifications should provide a basis for revision.

ATC PROFIT PLAN

A profit improvement program for all large and small flight training schools and FBOs has been established by Analog Training Computers, Inc. Multiple use of groups of the ATC-510, a low cost, widely used flight simulator, is the basis of the profit-oriented plan.

The basic Profit Improvement Program package contains 10 ATC-510K simulators with Part 141 approved enclosures, an instructor's station which acts as his control and communications center, and an Instructor's Guide detailing the curriculums of a number of standard courses. All of the software and accessories needed for the program are included. Operators also receive a variety of suggested classroom layout plans.

Two other PIP package plans are available for smaller operators and for others who may wish to start with less than 10 simulators. These packages are tailored on the basis of three or six simulators, yet include the instructor's console and proportionate quantities of all training materials.



FIRST CESSNA TURBOPROP

Flight testing of the Cessna 441 propjet, a twin-engine pressurized executive aircraft, is now under way. It is a 10-place airplane with a gross weight of 9500 pounds and a maximum useful load of more than 4500 pounds. Its maximum cruise speed is over 320 mph. The range is over 2100 statute miles including reserves with standard fuel of 450 gallons and at speeds above 300 mph.

The 441 will use the new Garrett AiResearch model TPE331-8-401 series turboprop engines, flat rated at 620 shaft horsepower to 13,00 feet. The engine features a significantly improved turbine section optimized for the high speed, high altitude requirements set by Cessna.

Cessna's dedication to improving fuel efficiency has also resulted in an aircraft which will offer approximately 60 seat miles per gallon at 300 mph which is not only 20 percent to 60 percent better than other turboprops but is superior to all executive piston-engined twins.

The Cessna 441 propjet will provide a cabin pressurization differential of 6.3 PSI which offers a sea level cabin up to 14,700 feet and a 10,000 foot cabin at 33,000 feet. This is the highest differential pressure available in a turboprop.

Below: One of the first to fly the 1976 Cheetah was Plane & Pilot publisher John Gorsuch. John flew with author Don Dwiggins on this test flight.

By Don Dwiggins

1976 GRUMMAN AMERICAN CHEETAH

PLANE & PILOT REPORT

IF GRUMMAN AMERICAN grabbed a Tiger by the tail in 1975 with its popular four-place, 180-hp Model AA-5B, 1976 is destined to be the year G-A will put to rest the old adage that "Cheetah's never prosper."

Pun-fun aside, when PLANE & PILOT got the opportunity to make the first cross-country shakedown flight evaluation of the new Model AA-5A Cheetah just before press time, it became quickly apparent that this lively little 150-hp speedster is a winner.

Named for the world's fastest animal, the G-A Cheetah, with a top speed of 157 mph, not only easily breaks the one-mile-per-horsepower barrier, it more than doubles the reputed 70-mph sprint speed of the sleek cat whose name it proudly bears. And more, its speed performance is only part of the story. Economy, simplicity, styling, and comfort are included in the Cheetah package.

If one of every four fixed-gear/propeller, low-wing aircraft of less than 200 hp sold in the United States in '75 was a Tiger, Cheetah is off to a running start to do as well or better in the 150-hp category, with the new model which evolved from the G-A Traveler.

The 1976 Cheetah was introduced with customary press-agentry fanfare, all done up in a fighter-ship paint job. There were claims for superiority in the "Four Cs" — climb, cruise, carry, and consume numbers, but the real showdown came on a flight evaluation that takes you well beyond the factory traffic pattern.

Thus it was that Cheetah N9636U, with less than five hours on the Hobbs, was loaned to me and PLANE & PILOT'S Publisher, John Gorsuch, for a run over to Philadelphia's Wings Field, a cross-country distance of some 375 statute miles from Cleveland's Cuyahoga County Airport by way of Youngstown, Altoona, and Harrisburg. A fair trial for cruise performance.

This flight was preceded by a factory-arranged competition flight, in which N9636U was pitted against the kind of Brand X 180-hp ships G-A intends to shoot down on the marketplace — a stock Cardinal, Archer, Arrow, and Skylane. Each carrying three passengers, these craft were flown in cruise, climb, and full power modes, which our Cheetah, piloted by Werner Huiras, G-A's international sales manager, easily paced or outperformed.

For example, on climbout in a two-plane formation with a Cardinal, the latter's constant-speed prop powered at 25/25, the Cheetah, firewalled to 2400 rpm, performed neck-and-neck at a 90 mph IAS best-rate of about 650 fpm, leveled at 3,000 feet full bore at 2650 rpm indicating 145 mph, then settled down to a 75 percent power cruise at 2580 rpm indicating 132 mph.

As closely as the two ships could be matched it appeared the Cheetah had the edge, but I don't know just how much each passenger weighed, or how much fuel each ship carried, so it was just a good sales pitch, no more. A more precise performance check would come later, on the run over to Wings.

You come to understand the Cheetah's design philosophy better when you get to know G-A's president, Corky Meyer, and Roy Garrison, senior vice president in charge of light aircraft marketing, both dedicated ex-military types who very obviously enjoy doing battle in what Corky openly calls the "crass-commercial" arena of General Aviation.

Meyer, former chief test pilot for Grumman, and Garrison, a USAF veteran pilot who flew his first mission in the CBI Theater at 21, have brought something new and vitally important to the business and pleasure plane market — more concern with performance than paint jobs, albeit the loud-and-clear message of the combat color scheme in wet-look Imron, is apparent, their message is that G-A has declared war on inefficient fuel consumption and like that.

The name of the game today at Grumman American is economy, and simplicity in design, construction, and maintenance/operation. As Garrison puts it: "We're far more concerned with a clean design than gadgetry that increases production costs."

This approach is highly apparent since Grumman took over American Aviation. In the Cheetah they've gotten it all together in an easy-to-fly, inexpensive-to-operate four-placer, ideal for the flying businessman disgusted with airline schedule cutbacks, and the slow, 55-mph speed and cumbersome traffic problems of automotive travel.

What they did was take the G-A Traveler, add a Tiger tail, redesign the nose strut, cooling baffles, engine cowling, exhaust system, and main gear fairings of the AA-5, dump the Traveler's ventral fin, and stretch the aft CG range for better loading flexibility.

All this aerodynamic cleanup, not more horsepower, makes the big difference, and with higher cruise performance, comfortable ranges in excess of 900 miles are possible with optional 52-gallon tankage. Standard fuel is 38 gallons (36.4 usable).

Checking out in a Cheetah is simply getting used to new numbers and a comfortably modified cockpit environment, with minimal new gadgetry. (They moved the mag compass up high above the windscreen, reducing deviation problems and permitting more panel open space.)

G-A makes a big thing of the new tinted sun visors, the kind you can buy in a discount house for a few bucks, but which are highly useful, as any motorist knows. A slim gooseneck map light crawls up the windshield post like a garter-snake as a nice option. Cheetah's nose strut, being longer for improved propeller-tip/ground clearance, still permits picture-window forward visibility on the taxiways.

Dual Narco nav/coms and a Century IIB Auto-Pilot in N9636U were there for easy VOR flying, and the flight and engine gauges were standard for fast-scan referencing. A panel-mounted checklist is a handy provision — no fumbling in the glove compartment required.

On takeoff they want you to get it up at

60 mph IAS. I goofed there on my first trip, holding the nose a bit high rather than waiting for airspeed buildup to recommended 73 mph, the number for obstacle clearance takeoff through ground effect. Live and learn.

Next time around was better, but I noticed a tendency of the nosewheel to shimmy if you didn't get it up at 60-65 mph. The mains, incidentally, have comfortable brakes which can safely be used for differential steering at the start of the takeoff roll. An ample rudder takes over quickly and the McCauley fixed-pitch metal prop (59-inch pitch) is just right for good acceleration, climb, and cruise performance. A 91-mph best-rate climb gets you upstairs at better than 650 fpm sea level.

Power-on and power-off stalls are uneventful. If it weren't for that damned horn blowing, your passengers would hardly know what was going on — the shudder, break and recovery are that smooth. The Cheetah's "Tiger tail," 30 percent bigger than the Traveler's, gives more than adequate pitch control, a nice thing for shortfield landings, IFR flying, or whatever.

Approach speed is 75 to 80 mph and stall speed is a shade over 60, flaps up, and a shade under flaps down. Slipping with full flaps is permissible. Being an old tail-dragger driver, I found a tendency to hold off the runway on flareout with a touch of power, rather than settling on the mains right now. When I got the hang of it, the landings were grease jobs.

I would like to bring one thing to the attention of Corky Meyer, who, although a veteran test-pilot, is a six-footer, and maybe can see the trim tab and flap position indicators better than I can. Right between the two driver seats, they are visually blocked for me by the seat cushion. I found it easier to check flap position by looking at the wing, instead of poking my head around the cockpit.

The Cheetah is a trim-tab airplane — you set it up for cruise or whatever, then let your right hand rest on the elevator trim wheel, tickling it now and then for fast response.

The run over to Wings from Cuyahoga County gave us an excellent opportunity to verify the Cheetah's book performance figures, which traditionally are arrived at under best possible flight conditions by guys like Corky, who have the magic touch.

Our flight path was a little erratic, however, as I tried out the two-axis autopilot and VOR tracker, which is supposed to take the strain out of radio range hopping, and does — that is, it did until we came over the mighty Alleghenies. Down below, ridge after ridge flowed past, hills of flame in autumn splendor, mysterious mountains where moonshiners shoot revenooers or whatever they do.

At 7500 feet cruise level, Harrisburg VOR's omni-directional signals played funny tricks bouncing off the ridges below, so that the CBI needle swung back and forth like a seasick seagull. The VOR tracker dutifully followed, so that N9636U ridge-hopped in Dutch rolls until I shut the omni off.

Narco's President, Chuck Husick, later explained the phenomenon, which was a little like trying to understand a split range on the old Adcock radio airways.

In flying, nothing is ever exactly what you expect it to be, which is where the Cheetah shines — its simplicity of design, clean lines, and proven performance capability give you a ship of the sky you can trust in a storm, not just a fair-weather machine.

The run over to Wings covered 375 statute miles the way we flew (including course deviations) and took 2 hours 40 minutes, cruising at roughly 140 mph IAS, which with winds and all computed out at 144.2 mph ground speed. At Wings, we topped off the two wing tanks with 23.7 gallons of 80-proof stuff, which worked out to 15.8 miles per gallon, or 9.1 gallons per hour.

I compared that actual performance with the Cheetah book, which says we should have covered the 375 miles with 20.8 gallons, or 18 mpg, which I guess can be done if you have an EGT in the cockpit. There was none, so I ran a little on the rich side with the manual "best-lean" method, the engine being brand new.

And, would you believe, I goofed again at Wings, in shutting down — carefully shutting off all electrical switches except that big red one, after moving the Cheetah a couple of times for sheltered overnight parking, a lame excuse if I ever heard one.

I learned something else from that experience — a jumper start works fine with a generator on board, to bring the battery up while flying nordo on the mags,

but with an alternator don't try it. It doesn't work.

Thus, if you listen to what mama says and fly right, go buy a Cheetah at $9,000 under competitive prices for the same value received, and be thankful Grumman American got this fine bird rolling before they move the whole factory down to Savannah, Ga., next year.

Maybe it took a fuel shortage to get G-A thinking seriously about simplicity and economy for the Cheetah this year, but I think it is a fine indicator of what's ahead in General Aviation, for when somebody comes up with a good thing, the others are not far behind (metal-to-metal bonding, once a G-A specialty, is now common).

"Don't fool yourself that higher fuel costs won't affect General Aviation," Roy Garrison, "but I think it's really been helpful. We've had a record year in sales, when the rest of the national economy has been hurt. And it's dramatized the role of General Aviation more than anything else could have done."

I had to agree, we flew the Cheetah in sky-high comfort and ease from Cleveland to Philadelphia in under three hours, at a direct operating cost equal to if not better than that of the average traveling salesman's automobile.

Grumman American's swing toward simplicity and economy in 1975 already has paid off handsomely, with advance orders for 1976 models in excess of 300 at PLANE & PILOT'S press time. (This occurred even before the September G-A dealer show).

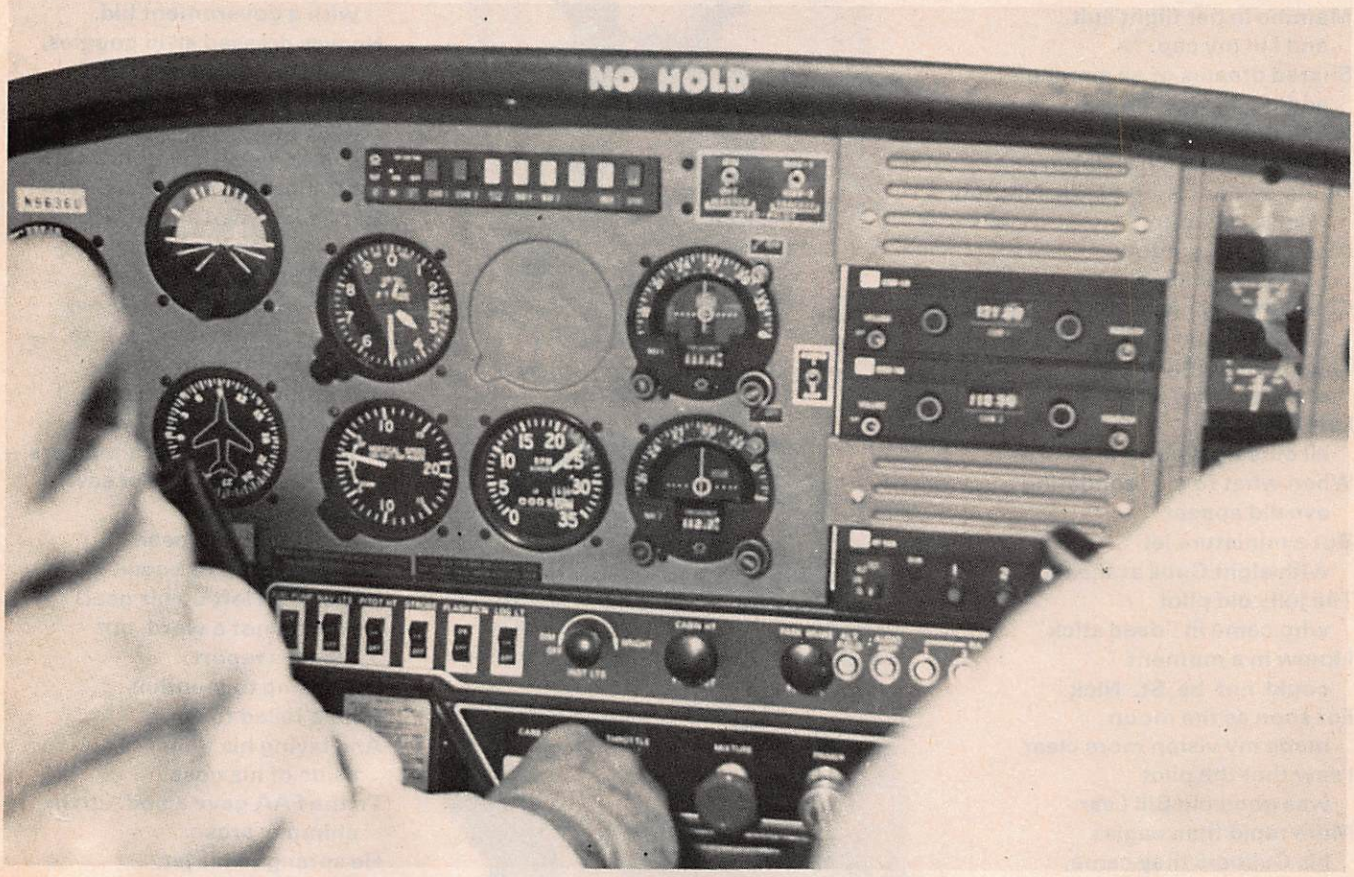
Garrison points up another thing of interest to G-A's particular economy — their move to Georgia will put the whole G-A operation on one company-owned 100-acre plot, where lower operating costs will be possible; hence, bigger profits and better economy to pass along to the consumer. The consumer also benefits from G-A's success in keeping the 1976 price increases to five percent.

Grumman American's distribution system also is worth noting in speaking of cost-effectiveness — by working directly with their dealers they get faster customer feedback, and that's how improvements originate.

Garrison has one more thought: If the government will just stop interferring with a good thing, General Aviation will emerge in 1976 as one of the strongest pluses in the whole national economy, and go far to help the international balance of payments, being the one shining industry at the far end of the tunnel.

"General Aviation means business," says Garrison. "High fuel costs won't hurt us much because most personal flying is for business, not just pleasure. There's no reason to penalize us with such things as higher user charges. Why, one teaspoon of gas from everybody's auto tank a day would keep all General Aviation flying!"

And with the Cheetah running out front, it's easy to understand what all the enthusiasm's about at Grumman American. •



GRUMMAN AMERICAN CHEETAH
Aircraft Name: Grumman American Model AA-5A Cheetah
Base Price: $21,145 (1 com, 1 nav) $21,861 (transponder-equipped)
POWER
Engine: Lycoming O-320-E2G
Horsepower: 150 at 2700 rpm
Power Loading: 14.7 lb./bhp
Min. Aviation Fuel Grade: 80
Normal Cruise rpm: 2580
Oil Capacity: 8 quarts
Supercharged: No
Fuel Injected: No
SPECIFICATIONS
Wingspan: 31'6"
Wing Loading: 15.7 lb./sq.ft.
Length: 22'
Height: 7'8"
Wing Area: 140 sq.ft.
Seating Capacity: 4
Baggage Capacity: 120 lb.
Fuel Capacity:
Standard Tanks: 38 gal.
Long Range Tanks: 52.6 gal.
Propeller: Metal McCauley 73/59
Gross Weight: 2200 lb.
Empty Weight: 1262 lb.
PERFORMANCE
Max. Range, 75%: 835 miles (No reserve)
Max. Range, 55%: 932 miles (No reserve)
Best Rate of Climb: 660 fpm
Takeoff (50 ft. obstacle): 1600 ft.
Landing (50 ft. obstacle): 1100 ft.
Approach Speed: 75 mph
Stall Speed, clean: 62 mph
Stall Speed, Flaps Down: 58 mph
Service Ceiling: 12,650 ft.
Max. Flap Extend Speed: 120 mph
Normal Cruise Speed: 147 mph
Max. Speed: 157 mph
SYSTEMS OPERATION
Flaps: Electrical
Trim: Elevator only, manual
Auxiliary Fuel Pump: Electrical
Cowl Flaps: No
Resettable Circuit Breakers: Yes

a VISIT from ST. NICHOLAS '75

By CARYL JOST TAMPLIN

'Twas the night before Christmas,
the beddy-bye hour;
Not a creature was stirring
except in the tower
(and one circling student
afraid to cut power).
The lineboys were nestled
all snug in their beds,
While visions of ratings
were inked in their heads.
Mamma in her flight suit
and I in my cap,
Shared dreams of an air race
and won every lap.
When out on the field
there arose such a clatter —
Home owners phoned Washington,
mad as a hatter.
Away to the window
I flew like a flash,
Clutching my oil cards
and all Mama's cash.
The moon on the breast
of emergency snow
Left VFR pilots
all cursing below.
When what to my wondering
eye did appear
But a miniature jet
with eight Cubs at the rear.
The jolly old pilot
who came in "dead stick"
I knew in a moment
could not be St. Nick.
For soon as the moon
made my vision more clear,
I saw that the pilot
was good old Bill Lear.
More rapid than eagles
his Cubbers they came,
And he whistled and shouted,
and called them by name:
"Now Godfrey! now, Hefner!
now, Slovak! now Scholl!
On, Piper! on Salzbury!
on, Chochran and Cole!
To the top of the porch,
to the top of the wall!
Now dash away! dash away!
watch out for a stall!"
And then in a crackling
I heard on the band
Old Billy requesting
permission to land.
As I drew in my head
from that low-flying kid,
Down the chimney came Billy
with a government bid.
He was dressed all in goggles,
and here's what he said:
"Forget all that toy jazz —
Just show me the head!"
His eyes, how they twinkled!
his dimples, how merry!
But he frowned and he scowled
at the prop he did carry.
For that droll little blade
was drawn up like a bow,
And his beard was all white
with emergency snow.
The stump of a wheel strut
he held tight in his jaw
And the slump of his shoulders —
'twas the worst I e'er saw!
A tear in his eye
and a sob I did hear
Soon gave me to know
that he'd left up his gear!
He spoke not a word, but
filed his report,
Forgetting to mention
he'd failed to abort.
And laying his finger
aside of his nose,
To the FAA gave a nod, up the
chimney arose.
He sprang to his jet,
and would have been gone,
But in all of his haste,
He'd left the master switch on!
And I heard him exclaim
as he flew out of sight —
"Let Hugh have his DC-9 —
I'm buying a kite!"