

*The gee whiz of a personal fighter  
and the prosaic practicality of  
banner towing and pipeline patrol*

BY ROGER ROZELLE

AOPA 537321



The tricycle gear tandem two-seater, with its canopy folded, calls out for a Klaxon to sound the alert that will send two pilots running for the cockpit, eager to take on a hell-bent squadron of snarling Messerschmitts.

A military trainer? A feisty aerobatic low-winger? Nope, the Varga Kachina 2150A isn't either, although its appearance might indicate otherwise to many observers.

There were no ME-109's in the sky when Roger Henderson, a full-time airline captain and part-time Varga dealer, led the way to his airplane, N8291J parked on the ramp at the Varga factory. It was the latest one off the production line.

He conducted a preflight with me and cautioned against filling the two fuel tanks—one 17.5-gallon tank in each wing—with the fuel valves open. That allows 80-octane fuel to overflow through a gascolator on the underside of the airplane. The fuel filler caps are recessed in the wings and hidden from view by flush covers.

Loosening three Dzus fasteners on either side of the engine cowl allows a hinged cover to be raised for a good looksee in the engine compartment, which is filled by a Lycoming engine.

The first step in reaching the cockpit is a big one, directly from the ground to the left wing. The hand grip on the

canopy makes it less difficult than it looks, but there is no graceful way to handle the maneuver. The step looks even higher and more ungainly when leaving the airplane, which I handled by jumping off the rear of the wing.

Getting into the cockpit required lifting the seat cushion and putting one foot on the solid aluminum seat frame, and then stepping the rest of the way into the cockpit. The seating arrangement was comfortable, and there was adequate room to shift around in the seat. Aside from adding or removing seat padding, however, there are no adjustments that can be made to the seat. No adjustments can be made to the rudder pedals either. That could create a problem for an extremely short person. A tall person, on the other hand,

has considerable room under the instrument panel to stow bended legs.

The wood grained panel is well laid out, with engine gauges to the left, flight gauges in the center and radio gear to the right. The panel seems especially uncluttered since there is no yoke protruding from it. Instead, a control stick with an optional military grip (\$72) is mounted in the floor.

Several options, including a Collins VHF 250 Com, VIR 350 Nav, TDR 950 transponder and a glider tow release system brought

8291J's basic price tag from \$22,950 to \$31,247.50 and the empty weight to 1,202 pounds. With full fuel, the airplane's payload is 411 pounds.

An array of toggle switches is located on a panel in the right-hand cabin sidewall, just forward of the front seat. They are easily reached, but I found it difficult to read the switch labels because of that location. The fuel selector switches are located on the floor, within easy reach beside the seat.

The throttle, elevator trim and carburetor heat controls are mounted on the left sidewall. On the floor, between the seat and the cockpit side, is a small handle that controls the flaps.

The rear seat cockpit is stark: rudder pedals, stick and throttle control. The







elevator trim (the crank looks like it was the one missing from the window control in my old '54 Ford) and the carb heat controls in the front cockpit are easily reached from the rear seat. The panel instruments are visible by looking over either shoulder of the front seat occupant. But the flap handle, electrical switches and radios are out of reach, so solo flight is approved from the front seat only. Instructional flights warrant a thorough ground school for students in the front seat.

The rear cockpit is more confined than the front one, although there are recesses under each rudder pedal that allow a nonpilot to keep his feet off the controls.

There is no primer system in 8291J (it is a \$225 option), but start-up presented no difficulties. Once the engine comes to life, the cockpit is noisy with the canopy closed or open. The optional Sigtronics voice-activated intercom system (\$450) is worth every penny and makes cockpit conversation—via headsets—effortless.

Taxiing the airplane is easy, since the nosewheel is interconnected to the rudder pedals on the ground (it disengages in the air, lightening control forces). However, the toe brakes are located too high on the massive rudder pedals (they look more appropriate for a B-29). I found myself alternating the position of my feet from the pedals to the brakes. There was no comfortable way to steer and brake simultaneously, but I viewed it as a minor inconvenience, not a safety hazard.

When we departed Chandler Municipal Airport (elev. 1,235 feet) with the temperature at 106°F, the aircraft was about 50 pounds under its 1,817-pound maximum gross weight. Density altitude was close to 5,000 feet. It quickly accelerated to 52 knots (60 mph), the suggested rotation speed, and lifted off the runway in less than 600 feet. The initial climb rate shot up to 1,400 fpm during climbout at 65 knots (75 mph), best angle of climb. Pitching over slightly and increasing airspeed to 74 knots (85 mph), brought the climb rate

to a still-respectable 700 fpm climb to 3,500 feet. Density altitude at takeoff was close to 5,000 feet.

Henderson's airplane is fitted with an optional climb propeller. Although 8291J required about 50 additional rpm to fly side by side with a Varga turning a standard propeller during cruise, it could quickly lift a glider off the runway and climb at 500 fpm in the Arizona sunshine.

One thing especially noticeable during the climbout is the absence of rudder trim. A very heavy foot is required to keep the ball centered, owing to the short-coupled design of the airplane.

Visibility from the Varga is spectacular. Except for the neatly upholstered canopy roof, its clear glass provides one heck of a view: there is 360 degrees of vision if a pilot can turn his neck that much.

Surprisingly, the cockpit didn't turn into an oven; if there is a place to accurately judge that possibility, Arizona has to be a front-runner. A vent in the canopy above each seat allows a strong



## VARGA KACHINA

Varga Kachina 2150A  
Basic price: \$22,950  
Price as tested: \$31,283.55

### Specifications

Engine	Lycoming O-320-A @ 2,700 rpm TBO, 2,000 hr
Propeller	Sensenich fixed pitch
Wing span	30 ft
Length	21 ft 2 in
Height	7 ft
Wing area	144 sq ft
Wing loading	12.5lb/sq ft
Power loading	12.12 lb/hp
Passengers and crew	2
Empty weight	1,125 lb
Equipped empty weight (as tested)	1,202 lb
Useful load (basic aircraft)	692 lb
Useful load (as tested)	615 lb
Payload with full fuel (basic aircraft)	488 lb
Payload with full fuel (as tested)	411 lb
Gross weight	1,817 lb
Fuel capacity (standard)	35 gal (34 usable)

### Performance

Takeoff over 50 ft (utility category)	440 ft
Rate of climb (gross weight) (sea level)	1,450 fpm
Maximum level speed	129 kt (148 mph)
Range	457 nm (525 sm)
Service ceiling	22,000 ft
Stall speed (flaps down)	45 kt (52 mph)
Landing over 50 ft	450 ft





flow of air into the cockpit, and by running a fresh air hose into the heater vent—a minor modification warranted in the west—additional fresh air can be directed into the cabin.

If it is fresh air that the pilot wants, the Varga can provide it in a manner unmatched by most other general aviation production airplanes. The canopy can be lifted in flight and folded to a locked position directly above the seats. It has little effect on airspeed and handling (but the air flow makes air-to-air photography a bit tough), although a maximum opening or closing speed of 70 knots (80 mph) is recommended in the owner's handbook.

Information in the 34-page handbook may be a bit sparse for some pilots, especially if they are familiar with the General Aviation Manufacturer's Assn. (GAMA) handbook format. Varga isn't a member of GAMA and the aircraft handbook reflects it. But the book seems to provide sufficient information to operate the airplane safely.

Level flight at 3,500 feet netted an indicated airspeed of 102 knots (117 mph) at 2,550 rpm. With the mixture leaned and the outside air temperature 86°F (30°C), the owner's handbook called it 75% power with a fuel consumption of about 8.5 gph. The true airspeed was 112 knots (129 mph), a

couple of knots faster than the handbook predicted. Since the aircraft carries 34 gallons of usable fuel, no-reserve cruise range is about 450 nm (518 sm).

During a later flight, when the aircraft was about 300 pounds lighter, 8291J climbed 700 fpm at 74 knots (85 mph), just before a level off at 7,500 feet. That kind of performance, with density altitude higher than 10,000 feet, makes the 22,000-foot advertised ceiling look within reach.

After setting 2,600 rpm at 7,500 feet, the indicated airspeed was 97 knots (112 mph). With an OAT of 77°F (25°C), TAS was 114 knots (131 mph).

Power-off stalls at 3,500 feet revealed nothing unusual. The horn sounded at 57 knots (65 mph), although airspeed was down to 47 knots (54 mph) before the nose gently pitched down.

Power-on stalls produced a high pitch angle; the barely noticeable break didn't come until 44 knots (50 mph).

Holding the stick aft to aggravate the stalls only produced some gentle porpoising with little tendency to roll off on either wing. Recovery was effected by releasing the controls.

Control response is light and crisp, but still allows the pilot to have a firm feel for the aircraft. The push-pull rod control system (except for the spring-adjusted elevator trim) contributes to

control effectiveness. It is easy to understand why pilots are tempted to roll or loop the airplane. However, as everyone associated with the company emphasized, the Varga is not certified for aerobatics.

When the time came to shoot a few landings, Henderson rolled off some numbers and assured me that by following them, a smooth landing would be in the bag. A setting of 1,500 rpm produced about 74 knots (85 mph) in the pattern. Adding a notch of flaps on base caused a slight pitchdown and a 500 fpm descent, while maintaining the same airspeed. The second notch was added on short final with 65 knots (75 mph) over the fence and power off. He was right. Consistently smooth landings made me feel like a veteran Varga driver.

The main gear system is prime contributor to such ego-building landings. The solid, but cushioned touchdowns, are insured by a large steel spring immersed in hydraulic fluid in a large cylinder on each main gear.

The Varga is an unusual member of today's general aviation fleet, but it is capable of doing more than conjuring up images of World War II dogfights. It is a simple, rugged, versatile and sporty two-place airplane. Try one on for size. □



# FROM NIFTY TO KACHINA



"Buying this airplane was the stupidest thing that I've ever done," claimed George Varga, Jr., the man who resurrected the airplane that now bears his name. "If I had only known how much money this was going to cost me, I would have never done it."

It was difficult to believe the man, whose aviation interests span nearly his entire lifetime of 66 years. And he still smiled, often, as he described the events that led to his purchase of an airplane that had been the hopes of two men before him.

"I started out selling Lindbergh pillows at air shows," he said, recalling the magic that drew him to airplanes—money. "Some fellow decided that I ought to be able to sell airplane rides

too, so I did. It wasn't long after that before I was parachuting out of airplanes. I was 16 years old, and I was hooked."

His flying career mushroomed after the air show days, although he spent the depression years working as an A&P. Later, he enlisted in the Royal Canadian Air Force, where he instructed students, ferried airplanes and flew the brass. He returned to the United States after Pearl Harbor was bombed and finished out the war years in China, flying the "Hump" as a pilot in the Army Air Force. Although he admitted that he loved flying, he made no bones about his dislike for the military.

"I had my fill of the service," he said as he shook his head side to side. "It

was a tough place to be for a man with any ambition."

He was interested in aviation, and he had ambition, so after the war ended Varga left the military and set out to make his fortune. He started a "motor club of the air," the National Skyways Assn. The project lifted off the ground in 1949—barely—and he lost all his savings. But he learned some good lessons.

Varga wasn't about to give up on aviation. He took another chance with what little money he had left, and bet it on airplanes—again.

"I had \$58, a wife, two kids and the rent was due," he claimed, in a voice that sounded as if the story had been told a thousand times. "I bought a surplus instrument panel for \$50. Then I

PHOTOGRAPHY BY THE AUTHOR



took all the instruments out, cleaned them and sold each one individually at the airport the next day. I doubled my money. Nine months later, I had \$10,000 in the bank and a two-car garage full of surplus parts."

Varga developed a knack for selling second-hand aviation goods and the surplus business grew enough to support two partners. Later, they sold out their California-based company at a handsome profit and went their separate ways. Varga traded California taxes for Arizona sunshine and took Power Plant Supply (another surplus parts business) with him in 1962. The company prospered and he was looking for ways to invest his money, when he spotted another second-hand bargain: Shinn Aircraft was for sale.

"Shinn had gotten involved as a subcontractor with a big government contract for a sorting machine for the post office," recalled the man as he shifted his eye-glasses. "He saw more money in that contract than he did in the airplane, so he decided to get out of the airplane business. Unfortunately, he really never made any money out of the government deal.

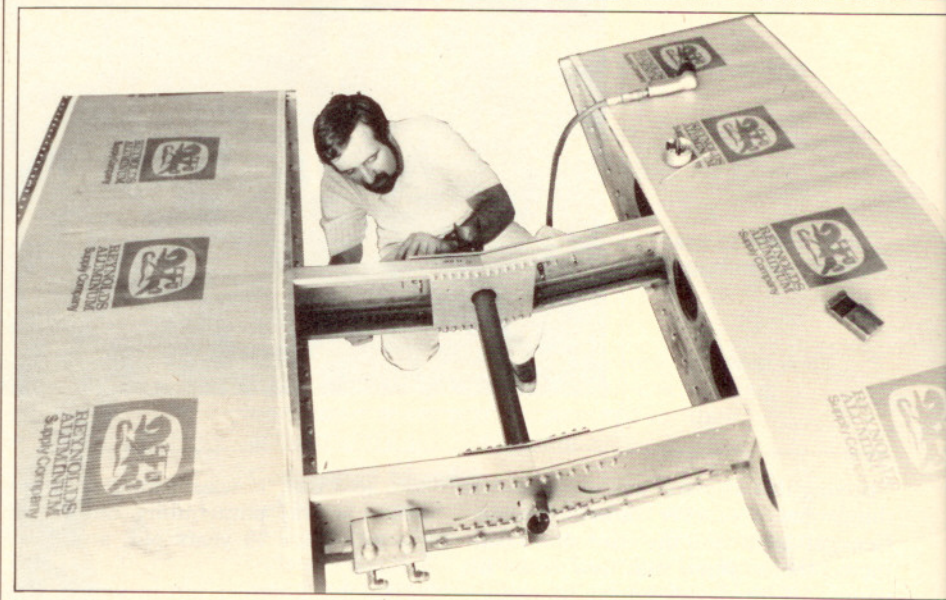
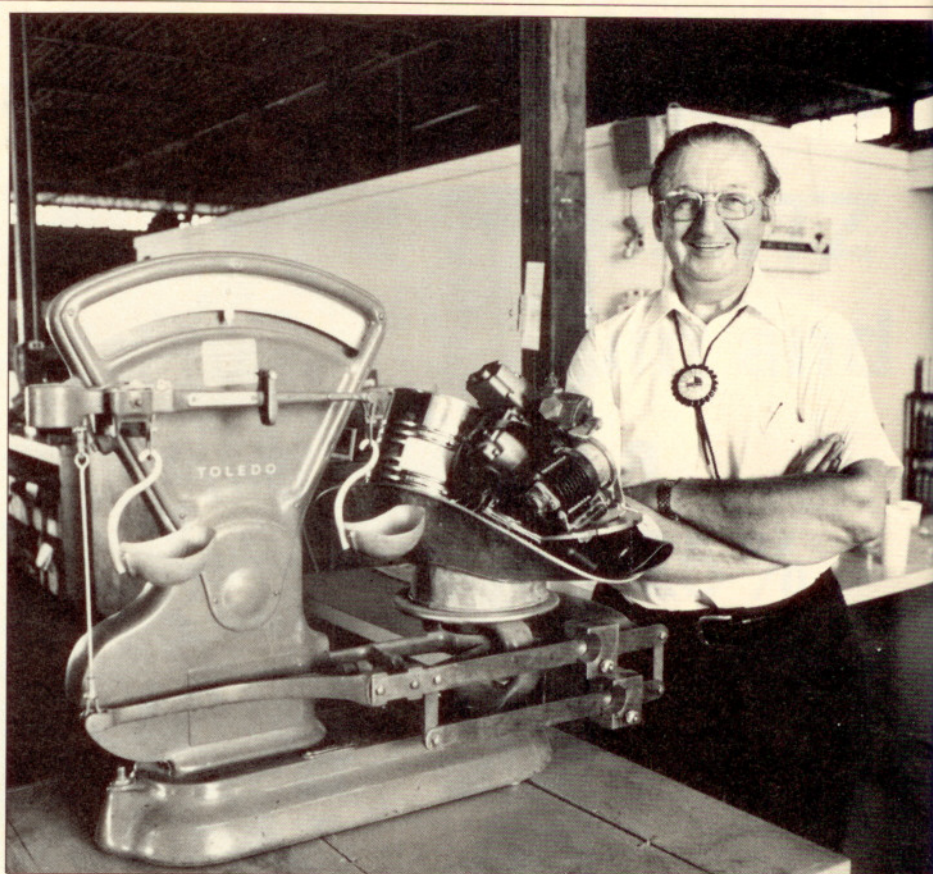
"The airplane on the other hand, had been—and is—a good product. Bill Morrissey designed and built the airplane. Shinn added a few improvements and some real good tooling."

Morrissey was chief test pilot for Douglas Aircraft and flew some big transports on their maiden flights. But he wanted to build his own airplane and paper doodles were transformed into a reality powered by a 65-hp Continental engine. Performance was lack-luster, so he strapped on a 95-hp Continental and called it the Model 1000C "Nifty." The airplane had plywood and spruce wings mated to a steel fuselage.

The airplane evolved into all-metal construction and a 150-hp Lycoming was mounted under the cowling, when he put it on the commercial market as the Morrissey 2150. Ten airplanes were built at Orange County Airport in Santa Ana, Calif., between 1958 and 1959, before financial demands caught up with Morrissey Aviation, Inc.

Clifford Shinn stepped in and bought the manufacturing and sales rights, made a few improvements and began production of the Shinn 2150A a year later. A four-place airplane was on the drawing boards when Shinn shut down in 1962 after producing 35 airplanes.

Varga flew a Shinn, and he liked the airplane. He also liked the selling price of the entire company, so he bought the operation and shipped the tools and parts from California to Chandler, Ariz. He had everything he needed to step into the aircraft manufacturing business by 1967.



It took a few years to organize the business and build a construction facility at Sky Harbor Airport in Chandler, Ariz. Their first airplane rolled off the production line in 1974, with a few design changes and a new name—Varga Kachina 2150A.

"Kachina is a name for Hopi Indian dolls, and Tawa is the one we put on the airplane tails. He is a sun god who brings sunshine and happiness wherever he goes."

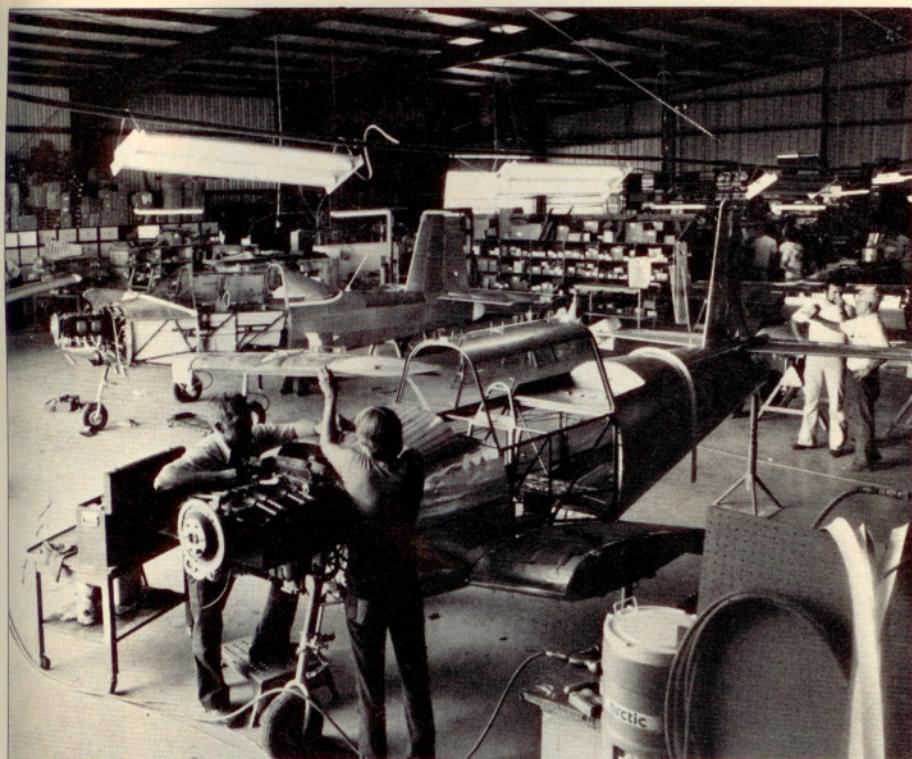
Varga bubbles with pride when he

talks about how the airplane is constructed. He emphasizes its structural integrity with the enthusiasm of a first-time discovery.

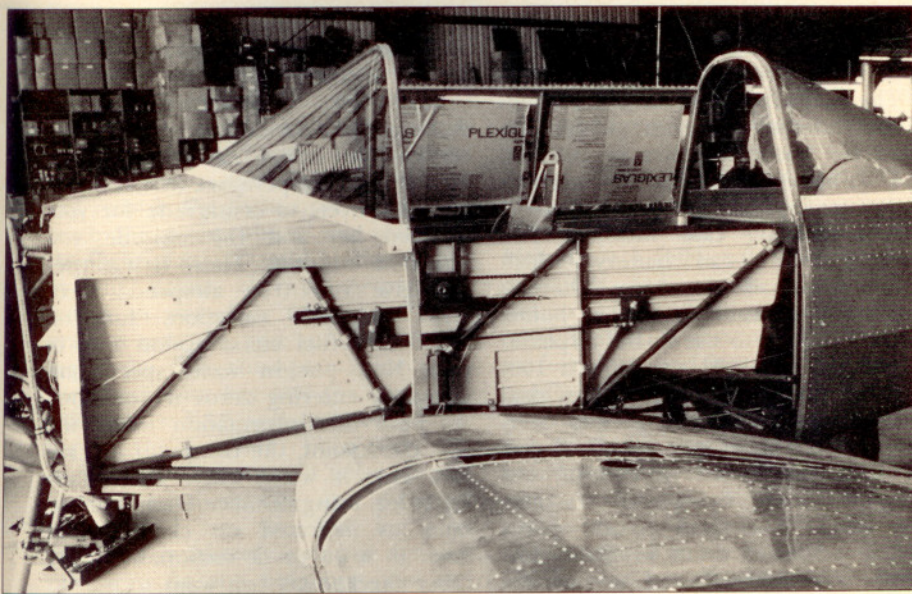
While the airplane may be built tough, its appearance is one of tender loving care. Everything fits into place—neatly.

"We pay attention to detail," said Varga as he pointed to a wing lined with straight rows of evenly spaced rivets and beveled aluminum edges. "Even the wire bundles are neatly arranged. And





George Varga (left) and his airplane factory. The Kachina uses well-tried construction techniques but benefits by careful attention to detail; pop a few Dzus fasteners on the fuselage side panels and the control cables and wiring are easily available.



a pilot can see that for himself just by removing the sidepanels, which snap out for easy inspections and maintenance."

Varga's 33-year-old son, George III, shares his father's enthusiasm for the airplane and adds: "It's built to last."

The younger Varga, who took a business administration degree from Arizona State University, wants to establish that same kind of feeling about the company that builds the airplane.

The son has assumed much of the

responsibility for running the company, which he admits has only recently begun to settle into order enough to allow less demanding work schedules.

The airplane's potential hasn't gone unnoticed by other manufacturers, according to the men. And they readily admit that selling the company or taking on investors are acceptable possibilities.

Added his son: "Sure, we'd like to do better than we are, but that airplane is part of this family. We have been

living and breathing it for years. We are moving ahead and it offers us challenges, for now and later.

Part of that challenge is selling the airplane. Although Varga Kachinas don't pile up on the ramp, the company has produced less than 100 airplanes.

"I would guess that half of them have been sold to airline pilots, who have stepped down to get away from button pushing and back to flying," said the younger Varga.

He was quick to point out that the airplane fills a marketplace beyond sport-flying.

"For the most part, towing banners and gliders has been their mainstay," said the son. "And they do well in pipeline patrol too.

"We have been approached about outfitting one as a trainer for low-wing crop dusters and one deal has been in the works that involves producing a large number of the airplanes as a military trainer for a foreign country.

"We think that it would make an ideal primary trainer," he continued, but his voice trailed off when he added that "not one of my dealers is in the flight school business."

Projects to make the airplane more marketable are always in mind, but the workload to maintain status quo has allowed little latitude for redirected efforts. (There is, however, a program underway to fit a larger engine in the airplane and I had the opportunity to sample what a 180-hp Lycoming can add to performance. Nice.)

"Power Plant Supply has paid the bills for Varga Kachina from the very beginning, but now that we are beginning to pay our own way, we don't want to bite off more than we can chew," he revealed.

"We would like to get the airplane certified for aerobatics. Unfortunately, a lot of people believe it is certified for aerobatics, but it isn't. We shudder when we read articles that state that as a fact.

"True, the airframe is built pretty rugged, but we would have to go through a certification process to determine if there are any weak spots. That would cost \$50,000 to \$100,000 and make more work for all of us."

"All of us" includes 23-year-old Valerie, George's sister and fellow Arizona State graduate. She too, has been immersed in aviation for most of her life.

"I do a lot of the administrative work," she said. "But I fly, and have about 125 hours in Varga Kachinas, of course. It's fun, although some of the guys I date get scared off."

And does their mother fly?

"No," said George III. "I think Dad promised Mom he would teach her to fly when they got married. Well, they did, but he didn't."—RR