

pilot flight check: **THE VARGA**



Varga flies his demonstrator aircraft near Casa Grande, Ariz. Photos by the author.

George Varga and the
Arizona sunshine have
revived a 'flying doll.'
Old-timers will remember
it fondly as the
Morrisey 2150/Shinn 2150A

by DON DOWNIE / AOPA 188441

■ Sky Harbor Tower, this is Kachina One Six Victor . . ."

You may never hear this identification on the air, but then again you may. George Varga (AOPA 15607), of Chandler, Ariz., just outside the Sky Harbor traffic pattern at Phoenix, has a fully licensed little trainer that he just might call the "Kachina."

For travelers unfamiliar with the Southwest, a Kachina is a Hopi Indian spirit. Kachina dolls are carved so that Hopi children can learn the names and appearances of the spirits. Varga's two-place tandem trainer is also a doll—of

the flying variety.

The Varga "Kachina" originated about 1958 as the Morrisey 2150, a redesigned version of the Morrisey 1000C "Nifty" [see "The Return of the 'Nifty,'" January PILOT]. Only a handful of hand-built airplanes were produced by Morrisey.

Later the aircraft was called the Shinn 2150A, after Clifford L. Shinn spent more than \$250,000 in 1961 dollars for tooling that produced around 35 complete planes.

After considerable horse-trading, George Varga bought the whole package—tooling, parts, spares, and FAA type

'KACHINA'



"We can deliver a finished airplane in 90 days for \$13,500, f.a.f. Chandler," says Varga. "However, we're not going to order the high-cost items—engine and prop, instruments and radio—until the customer puts down a \$5,000 deposit. Then we'll guarantee delivery and perhaps even throw in a paint job."

I first flew Varga's demonstrator aircraft over a year ago, but he asked me to hold up on the story "until we're far enough along to have something to sell." He now has enough parts on hand to assure prompt delivery, so I recently journeyed to Arizona for a flight check of the aircraft.

The Morrissey-Shinn-Varga "Kachina" is a fine-handling little airplane, both on the ground and in the air. One of the unique design features of this tandem aircraft—conceived years ago by Bill Morrissey in his "Nifty"—is the single instrument panel. The rear-seat pilot or instructor sits three inches higher than the guy or gal in front. There is more than adequate visibility over the shoulder for easy instruction, eliminating the cost, weight and complexity of two instrument panels. Solo is, of course, from the front seat.

The trim tab is reachable from either cockpit, although it's a little far back to be comfortable for the front-seat pilot. Dual brakes, stick, and throttle controls are installed to make the aircraft a fully equipped trainer. The flap handle is located in the front, to the left of the stick, but flaps are necessary only for airports with extremely steep approaches.

Varga's demonstrator, N5116V, was originally the sixteenth plane built by Shinn. The first production aircraft from Arizona will include additional soundproofing, a redesigned instrument panel, and recessed gas caps.

The view from this ship is outstanding. It has a metal roof, in deference to the Arizona sunshine, but this 2½-by 8-foot panel could be replaced by clear or tinted plastic if the customer so desired. (Then you'd have super omnivision, and probably sunburned ears.)

Getting in and out of the aircraft

isn't the easiest project in the world, but no amount of redesign will change this. You climb up on the left wing root, open the hinged canopy, flip back the seat cushion with your toe, step on the seat, and wriggle down into the cockpit.

One of the items not found in the trainer at this time is adjustable seats. It's a saving in weight and complexity to shuffle cushions to accommodate pilot sizes, rather than slide the seats. But Varga plans to make adjustable seats as his production program develops, if it can be done without undue paperwork.

There's a 50-pound baggage compartment beneath the hat rack aft of the rear seat. The back seat is a full 29 inches wide, so even heavyweight flight instructors could spend a good part of their day back there without aches and pains.

From a structural standpoint, the 2150A/Kachina is a rugged aircraft, with both pilots sitting inside a chrome moly tube fuselage center section. The existing airplane is not aerobatic, but Varga figures that a few pounds of added structure would make it fully so.

In addition to an aerobatic version, Varga could also go ahead with an 8-inch-wider fuselage, using the same wing, and come up with an economy four-placer. Gross weight would be up to 2,840 pounds, but existing tooling could handle the complete job. "All that would be required would be heavier-gauge structure in some areas," Varga says.

Starting up the aircraft is simple. Turn on the electric fuel pump, add a shot of prime, hit the starter, and you have instant power. The dependable 150-hp Lycoming O-320-A2B, hooked to a light airframe that grosses only 1,817 pounds (1,570 in the utility category), gives an instant feeling of power plus. It is also a little noisy. When you have all that Plexiglas to see through, some engine noise is going to filter in; headsets and an intercom through the radio would be an appreciated addition.

You have an instant opportunity to

certificate approval—and moved it to his 120- by 127-foot manufacturing facility at Chandler Municipal Airport.

Varga, a former Burma Hump pilot, has been involved in various aspects of the surplus-aircraft business since he first bought a P-38 instrument panel for \$35 and sold the parts and pieces the same day for \$80. He's seen many an aircraft company go broke by trying to become too big, too fast. That's why he, two of his sons, and a handful of helpers are taking their time in putting together a stack of parts for the first 25 production aircraft. To do so, they're using some of the profits from Varga's aircraft parts supply company, and they feel no urgency about making a sales quota.

check out the rough-field handling of the broad tri-gear before you ever get off the ground at Chandler Municipal. Varga's manufacturing building is connected with the airport by a well-used gravel road. As you taxi out to the airport, you find that the nosewheel steering, shock absorbers, and brakes work admirably. The wingtips clear the fences of cow pastures adjoining the airport, and everything works out just fine.

With a full 35 gallons of gas, two people, and only two small cameras for baggage, we were at about 1,675 pounds on takeoff, 142 pounds under gross. The morning temperature was a comfortable 75°F, but it warmed up later in the day.

Power loading is only 12.12 pounds per hp, so you'd expect the ship to get out and go, and it does. Acceleration is rapid, and considerable right rudder is required to keep the nosewheel on the centerline. Rudders and nosewheel are connected until the nosewheel is lifted off the ground. Then they disconnect, and there's a fine, light control pressure.

Specifications call for clearing a 50-foot barrier in 440 feet at utility weight. Since we were heavier than the utility gross, and both hotter and higher (elevation 1,235 feet) than that mythical standard day, we took a little longer. Our rate of climb was above 1,200 fpm, however, and that's not at all bad. At a best-rate-of-climb speed of just under

80 mph, you look over your shoulder and the airport you took off from is a long, long way down.

If your copilot doesn't mind being windblown, you can open the hatch fully in flight. Just be sure you're sitting on your charts, because it does become a bit drafty. There's a stop on the hatch opening that lets you open the hatch part way for taxiing and warm days, and a small, vane-type vent at the top of the cabin gives additional back-seat air.

As we circled Carefree (Ariz.) Airport, the Unicom operator advised a downhill landing in zero wind. Rather than argue the point, we circled and approached Runway 24.

Visibility from Varga's little "Kachina" is most appreciated when you rack the ship up in a turn in the pattern. There's almost nothing you can't see from the front pit, and there's mighty little obstruction from the rear.

We were a little hot and high on approach; however, the ship has 6.98 square feet of flap, with settings at 15 and 30 degrees. Flaps are operated from the front pit by a manual Johnson bar, and full flaps helped kill off any extra float as we touched down at the 52-mph stall speed. It would be difficult to make a really bad landing in this ship.

After absorbing some of Carefree's fabled sunshine, we took off and headed east, just sightseeing. Cruise was 135 mph at 2,500 rpm, but we cut back to 2,350 rpm for an 8-gph economy setting and better than 120 mph.

The temptation was there, but we didn't roll the "Kachina." Steep lazy eights and a couple of hammerhead stalls took care of the fun and games; then we reduced power and slid downhill back to Chandler Municipal.

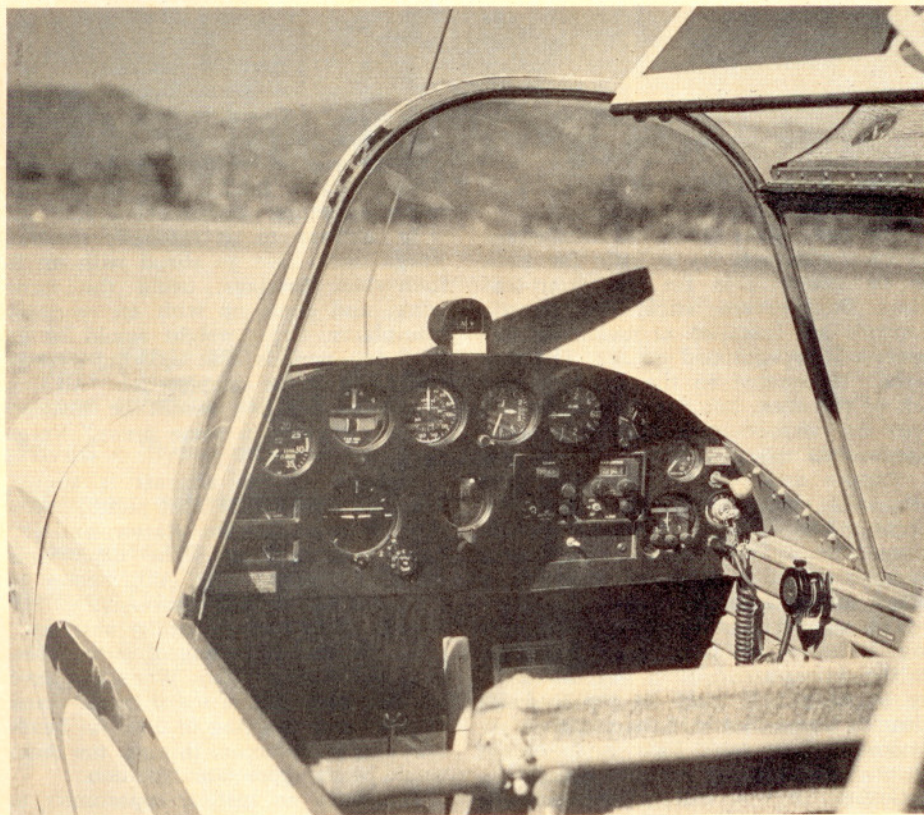
George Varga's trainer and sportplane package is a no-nonsense machine. It's trim and neat, but carries no "fat." Wheel fairings might make it look sexier, and additional soundproofing could drop a few decibels. A set of plushy nav/com options might be added, and probably will go into some owners' new models. The product that's being put together at Chandler Field is a fine training airplane—nothing more, nothing less.

The first Varga production aircraft will probably go to Herbert J. Frank, president of Aerosonic Corp., Clearwater, Fla. Frank wrote Varga last September: "I cannot tell you how enthusiastic I am about your aircraft . . . I would be very happy to place an order for at least 25 of these airplanes in the event you ever get into production, because I really believe they are the answer to training aircraft."

At press time, Frank said, "I still am very enthusiastic about the Varga aircraft and will purchase it as soon as it is in production for distribution."

With orders like this pending, it's small wonder Varga opens the doors of his factory building each morning with the thought that there will soon be more, many more "Kachinas" in the sky. □

Instrument panel on Varga's demonstrator will be redesigned for the first production aircraft.



VARGA 'KACHINA'

Specifications

Engine	Lycoming O-320-A2B, 150 hp @ 2,700 rpm
Gross weight	1,817 lb (normal category)
Empty weight	1,125 lb
Useful load	692 lb
Length	21 ft 2 in
Height	7 ft
Wing span	30 ft
Wing area	144 sq ft
Power loading	12.12 lb/hp
Wing loading	12.5 lb/sq ft
Baggage capacity	50 lb
Fuel capacity	35 gal
Base price	\$13,500

Performance

Top speed	148 mph
Max. cruise speed	135 mph
Stall speed	52 mph
Cruising range	525 mi
Fuel consumption:	
75% power	10 gph
65% power	8.8 gph
60% power	8.2 gph
Takeoff over 50 ft	440 ft (utility category)
Landing over 50 ft	450 ft (utility category)
Rate of climb, sea level	1,450 fpm (utility category)
Service ceiling	22,000 ft