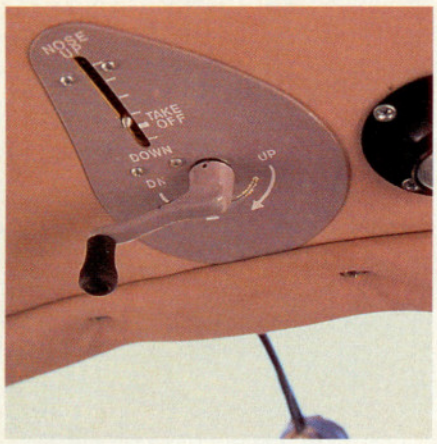
before that slacker Columbus, Bellanca's Viking was treading the waters of composite construction well ahead of the others. Mind you, we're talking about a different kind of composite. Today's airplanes are a mix of fiberglass, carbon fiber, Kevlar, and various types of foam or honeycomb cores—it is this mix of materials that begs the term composite. But in the 1950s and 1960s, aircraft designers toyed with several other combinations of materials—aluminum skins atop steel-tube frames, wood-skinned wings and tails, and remnants of fabric in the control surfaces. Fiberglass pro-cesses had yet to mature—they're light years more advanced today—and designers were loathe to just give up on some of the known materials of the postwar period.

Some or all of which explains the Bellanca Viking. This Italian design has a truly eclectic mixture of components—an all-wood wing mated to a steel-tube fuselage covered by fabric and further appointed with fiberglass. In fact, upon first seeing a Viking, many a pilot has assumed that the bump-free wing is itself fiberglass. Derived from the triple-tailed Bellanca Crusair of the mid-1950s—sometimes called the cardboard Connie—the Viking retained much of the older model's design philosophies; some for the good, some not. For example, the main gear attaches to the Viking near the wing root, but because the Crusair was a taildragger, modifications were necessary to place the gear in the appropriate location further aft. Because there's no room for the mains to swing into the belly as is common practice on low-wing retractables, the tires instead pull up toward the leading edge of the wing. Early models of the Viking introduced fiberglass bulges to cover the wheels, a modification good for a claimed 10 knots.



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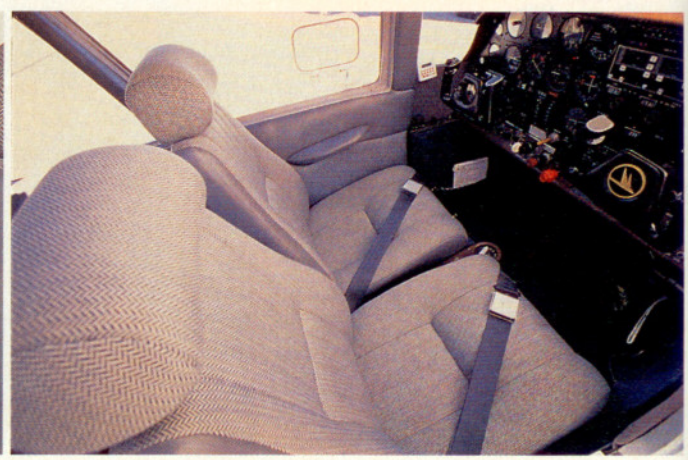
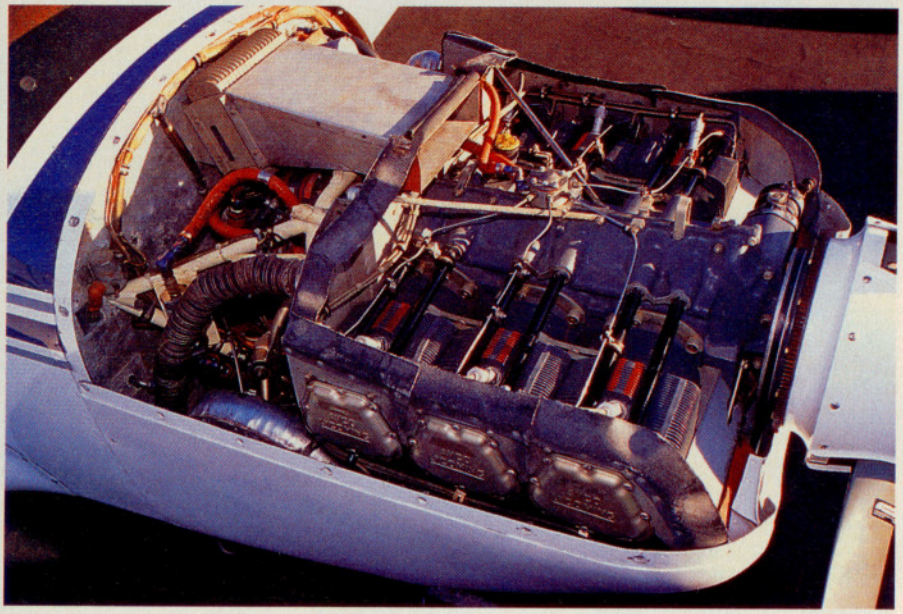
And therein may lie the explanation for the Viking's quirks. It never was a hot seller, maxing out at about 200 airplanes a year in the mid-1970s, so there never was the impetus nor the funding to complete a rework to more typical specification. Then again, it might just be that the Bellanca factory—still churning out a handful of airplanes a year in Alexandria, Minnesota—liked the airplane the way it is. Could also be that Viking owners are just as idiosyncratic—that they buy into such an unusual airplane because it suits their own sense of style, convention be damned.

Regardless of motivation, buyers considering the Viking must consult an experienced Bellanca mechanic before laying down the cash. Particularly regarding the wood wing, the Viking's DNA is so different from the mainstream that a Cessna-trained technician will likely miss some of the critical inspection points. The Bellanca-Champion Club (www.bellanca-championclub.com) is a good place to check for local talent. And while the basic systems of the airplane aren't all that extraordinary, it's the combination of fabric-covered fuselage and all-wood wing that will give an inexperienced mechanic the fits. It's absolutely critical to find someone who knows the Viking intimately before you put your money down.

While you're shopping, you'll find a reasonable variety of airplanes from



which to choose. Bellanca introduced the Viking in 1967 as the 17-30 with a 300-horsepower Continental IO-520-D. This engine spins at a lofty (and loud) 2,850 rpm for takeoff; maximum continuous power is 285 hp. Two years later, Bellanca brought out the 17-31, powered by a Lycoming IO-540 originally rated at 290 hp but later bumped to an even 300. For many years, the Viking was the only airplane to give you the option of not just engine model but engine manufacturer as well. These early airplanes are a tremendous value on the used market. According to *Vref*, a 1967 17-30 lists for just $38,000, while a 1969 17-31 trades for about $40,000. That's chump change for a four-place, 160-knot airplane.



Big improvements were in store for 1970, however, making this vintage of Vikings vastly more desirable. With the 17-30A and 17-31A came a much-needed increase in maximum gross weight from the paltry 3,000 pounds of the original. The Continental-powered airplane (switched to the IO-520-K) moved up to 3,200 pounds, while the Lycoming-motivated version got to 3,325 pounds. Reportedly, no changes were made to the wing or the basic fuselage structure; only

a strengthening of the landing gear was necessary. When either the 17-30A or 17-31A came with larger fuel tanks, it became the Super Viking.

Bellanca continued to develop the Vike—as it is familiarly known in Bellanca circles—by cleaning up the cockpit and instrument panel. Early Vikings have scattershot panels typical of the late 1960s, with the main gyro instruments in the middle of the panel and little room for extensive avionics. The 1974 models introduced both a revised panel and a much simplified fuel system. (More on this later.)

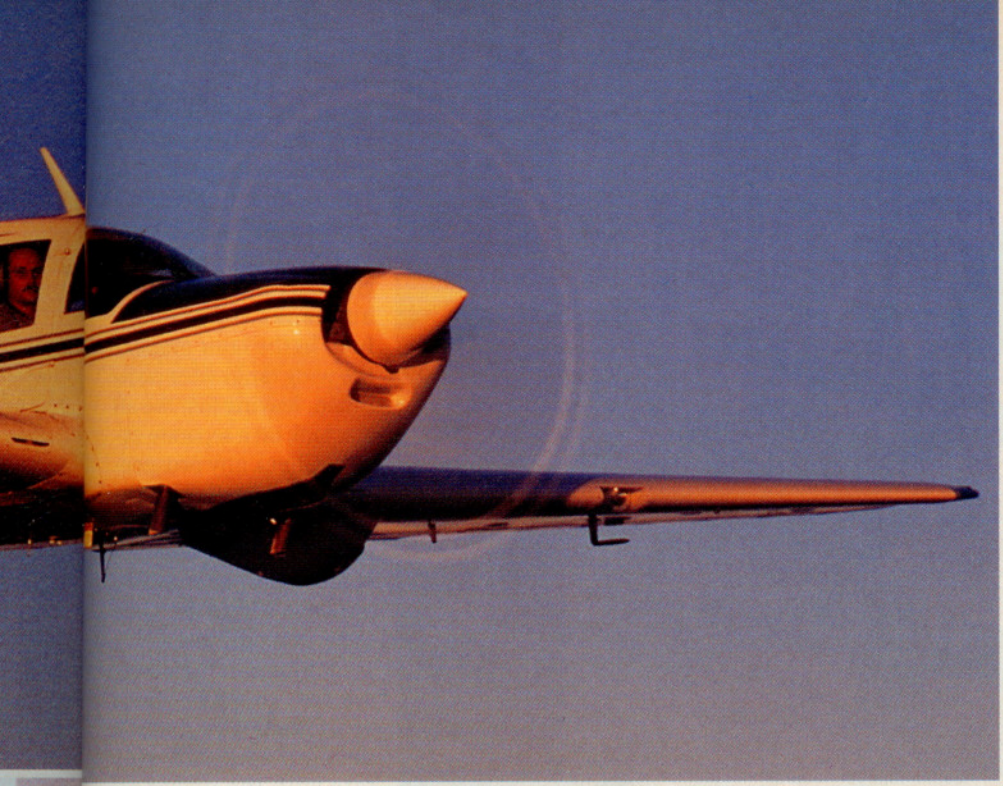
Randy Pittman and Troy Foster own what is probably the most desirable of the older Vikings, a 1974 17-31ATC. Naturally, the "TC" suffix denotes the optional dual Rajay turbochargers fitted to a small percentage of Lycoming-powered Vikings. No Continentals were turbocharged. Typical of the period, the Rajays were controlled through dual,

A new Bellanca pilot will be instantly taken by the airplane's excellent handling and superb control harmony.

manually operated wastegates, a so-called second-throttle system.

Theirs is an airplane with an interesting history, too. It was purchased new by Mike Marko Jr. in 1974 who flew it for a couple of years before he suffered a heart attack and lost his medical. In the same period Marko's son, Mike Marko III, began flying the airplane as well, putting on, he says, more than 100 hours in a year. Even so, it transpired that this Viking sat in a hangar for more than a decade. When Marko Jr. told his son that he had been diagnosed with terminal cancer, he requested that the Bellanca be restored and sold to the kind of owner who would take good care of it. A lengthy and expensive restoration resulted in the airplane's being airworthy again but hardly finished—the restorer has a "reserved parking place in hell," according to Marko. Then the airplane came to Pittman and Foster.

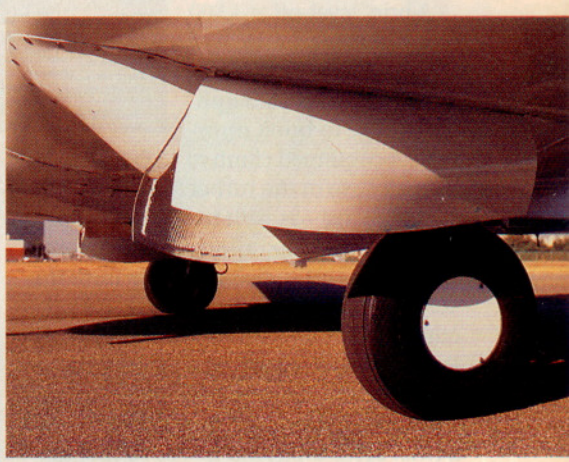
They're still working out the bugs after the first year of ownership, particularly those snags relating to the avionics and electrical system. No surprise there. This Viking was exceptionally well-equipped for the day, including a horizontal situation indicator and Bendix two-axis auto-



pilot. It's just that all of it is mid-1970s vintage and much less reliable than the components we're used to now. But the Pittman-Foster partnership appears to be nothing if not dedicated to making everything work. A buyer's note: Try to find a Viking with updated avionics, most notably a recent-vintage autopilot.

The Turbo Viking has a conventional preflight and start, with the normal juggling of the mixture and throttle of any big-bore Lycoming. It settles down into a somewhat loud but smooth idle and it's then that you notice the sharp, direct nosewheel steering. If you're used to Beeches or Cessnas with a bit of play in the system, you'll have to turn down your mental control gain in the Viking. It's easy to put the airplane where you want it on the taxiway, but such direct steering portends the need to take out any large rudder displacement during a crosswind landing.

As part of the runup, the Viking check-



list specifies testing the turbo system by pulling the wastegates closed and noting a rise in manifold pressure. The change in exhaust note is surprisingly great; the turbos are effective mufflers.

Vikings sit low, like Mooneys, so the view out the window is a bit unusual. Even rotating past the recommended 56 KIAS—the airspeeds are marked in mph, converted here for your convenience—the Turbo Viking uses a modest amount of runway and accelerates smartly to its best rate-of-climb speed of 104 KIAS. Viking pilots recommend leaving the throttle to the firewall, at least until accelerating past 95 KIAS, otherwise the landing gear's auto-extension feature might intervene and drop the wheels. It's set to extend the gear at airspeeds below about 90 KIAS unless the throttle is wide open. Many pilots dislike the system, particularly as there's no way to override it.

The TC settles into a respectable 750-fpm climb at 105 KIAS and 24 gph. Throughout the climb, a new Bellanca

pilot will be instantly taken by the airplane's excellent handling and superb control harmony. The ailerons, in particular, are worthy of much praise. They're light and effective and seem to work as much by reading your mind as by control-wheel inputs. Rudder forces are higher, with pitch a bit heavier yet; it's the classic control harmony profile and it works stunningly well. Viking owners wax poetic on their airplanes' handling qualities, and it's easy to see why. Even spoiled Bonanza pilots will return admiring words after a Viking sortie.

A brief level-off at 4,500 feet discloses a cruise of 155 KTAS at 25 inches/2,500 rpm and 15.5 gph. Very close to book numbers. A continued climb to 12,500 feet lets us make use of the turbochargers. In the Turbo Viking—as with many of the aftermarket Rajay installations—the large "second throttle" does nothing until the very last part of its travel. Worse, it works counterintuitively—twist the control out to close the wastegates and increase manifold pressure. Once producing boost, the turbos are relatively easy to manage, with a twist every thousand feet or so to maintain desired manifold pressure. This Turbo Viking ran comfortably cool cylinder heads in the climb, but worked its oil temperature to about 80 percent of maximum.

High-altitude cruise is where the Turbo Viking shines. At 12,500 feet, the airplane trued 167 knots on 73-percent power for an average fuel burn of 15.5 gph. The handbook says that at 75-percent power, the Viking will true 187 knots at 20,000 feet and 193 knots at 24,000 feet, all on 15.9 gph. Bonanza pilots might be sniggering that this isn't terribly impressive speed for a 300-hp airplane and they'd be right; the Viking, despite its clean wing, is not as a whole as aerodynamically efficient as some other designs. This fact bothers Viking owners not at all.

One aspect of the design—the fuel system—has caused grief for Viking operators, and was the subject of a redesign midway through 1973's production run. Long-range airplanes up to that point might have as many as five separate fuel tanks—two main wing tanks, two aux wing tanks, and a baggage-bay aux tank. The main fuel selector chooses among the mains and a separate auxiliary conduit; another fuel selector chooses which of the three aux tanks supplies the fuel. In the later models, the wing tanks were combined, leaving just the aft aux tank on a separate circuit. Check any prospective Viking carefully to see which of the fuel systems is on board; Bellanca made many permutations available within the same range of model years.

Landings in the Viking are easy to master once you understand that it'll develop a healthy sink rate with the power off and the airspeed below about 75 KIAS. A small pitch-force change accompanies the first half of flap travel, but there's little more in the transition to full flaps. Those wonderfully harmonized controls work with you to produce smooth, precise landings.

Walking away from the parked airplane, Pittman and Foster ask the rhetorical question—is there any airplane that's as much fun to fly that's also a downright bargain? Fair question. The value references show that at least the initial cost is reasonable. For example, a 1975 17-30A (Continental) sells for $54,500, with the Lycoming version at $57,000. Compare that to a 1975 Beech F33A Bonanza at $126,000 and you can see the economic sense. To offset this low buy-in is the need to hangar the airplane—yes, it'll live just fine outside, but the effects of wood rot in the wing and fabric deterioration on the fuselage argue for keeping it indoors—and the necessity of finding a mechanic familiar with the airplane. This requirement may result in traveling for your maintenance.

As is true of many brands, the Bellanca Viking invokes great pride among its followers. That the airplane is comparatively rare only fuels the fire; Vike owners are a different breed, and they're proud of it. And now with new designs like the Cirrus and Lancair, Viking owners can also crow that their idea of the composite airplane has been well and truly validated. □

E-mail the author at marc.cook@aopa.org

Vike owners are a different breed, and they're proud of it.

1974 Bellanca Turbo Super Viking 17-31ATC
Used price: $60,000

Specifications

Powerplant	Lycoming IO-540, 300 hp @ 2,700 rpm
Recommended TBO	1,800 hr
Propeller	Hartzell, three-blade, constant-speed
Length	23 ft 6 in
Height	7 ft 4 in
Wingspan	34 ft 1 in
Wing area	161.5 sq ft
Wing loading	20.6 lb/sq ft
Power loading	11.1 lb/hp
Seats	4
Empty weight, typical	2,150 lb
Maximum gross weight	3,325 lb
Useful load	1,175 lb
Payload w/full fuel	701 lb
Fuel capacity, std	85 gal (79 gal usable) 510 lb (474 lb usable)

Performance

Takeoff distance over 50-ft obstacle	1,420 ft
Rate of climb, sea level	810 fpm
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
@ 75% power, best economy	172 kt/4.2 hr
/10,000 ft	(96 pph/16.0 gph)
Landing distance over 50-ft obstacle	1,340 ft

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.