

THE BIG EZ

Welcome to the Ronneberg theory of evolution

BY MARC E. COOK



Appearances, sometimes, are deceiving. Given its tandem seating and general Long-EZ-lookalike ramp presence, the Berkut is nonetheless a most radical departure from the Rutan mold. From the shape of the nose to the fully retractable, hydraulically operated gear, the Berkut departs from EZ convention at nearly every turn. Dave Ronneberg, constructor of eight Long-EZs and the Berkut's penman, likes to think of the Berkut as the kind of airplane Burt Rutan himself would have evolved from the long-lasting EZ. Ronneberg's company, Experimental Aviation, in Santa Monica, California, sells the kits.

Ronneberg's changes touch virtually every part of the Berkut, so much so that there's hardly a piece that could fit on a plans-built EZ. Ronneberg stretched and widened the fuselage, giving the shape a new nose and radically altered

canopy. Hinged at the rear like front-line jet fighters, the Berkut's twin canopies offer a fabulous view from the front, and an adequate one from behind. Moreover, the shape of the in-board strakes differs from EZ practice and you'll notice the Berkut's ailerons have greater span than a typical Long's. Finally, at the power end of the airplane, there's a tweaked, parallel-valve IO-360 Lycoming capable of 205 horsepower through a 9.7:1 compression ratio, electronic ignition (with a magneto backup), and a number of other speed tricks. That's a more stout powerplant than your typical EZ carries around.

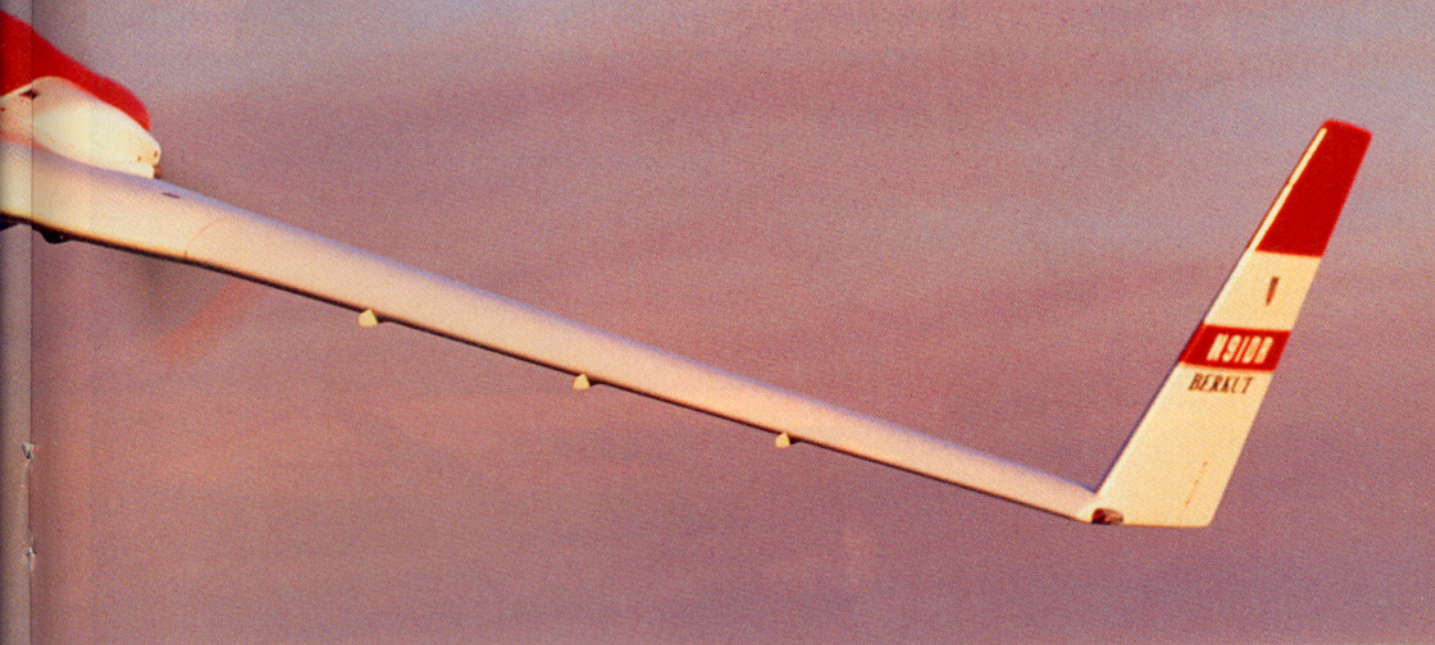
That engine, along with the retractable gear, gives the Berkut excellent go potential. We noted a true airspeed of 207 knots at 2,840 engine rpm and 8,000 feet in slightly above-standard conditions. At a more sedate 2,700 rpm, the Berkut still

turned in 195 knots, obtained at about a 2-inch reduction in available manifold pressure. All of which is kind of amazing considering that the Berkut's graphite-wrapped, wood-core fixed prop carries more pitch than a room full of salesmen.

Such a radically cruise-oriented prop doesn't hurt climb performance much, largely because at 2,000 pounds maximum gross weight, the airplane isn't carrying around much heft for the power. Initial rate of climb of better than 1,500 fpm is possible with two aboard and a higher-than-optimum airspeed. Solo, the Berkut can maintain about 2,000 fpm at nearly 120 knots indicated.

When it's time to come down, the Berkut obliges, with added drag from a belly speed brake and no-speed-limits gear activation. (Other kit manufacturers take note.) With a mild power reduction, the Berkut will head earthward

BERKUT PHOTOGRAPHY BY MIKE FIZER





with ear-popping swiftness.

In almost every respect the Berkut's handling is superb. Pitch forces are well moderated and the stick-force-per-G gradient is such that pulling hard enough on the airplane to break it would also likely result in pulled muscles. (To watch Rick Fessenden's lovely high-G aerobatic routine makes one think he's got a gorilla's forearms.) Yaw stability is excellent, with no perceptible adverse yaw.

Roll control is the big surprise. Normal Long-EZs have relatively conventional roll performance, with a fairly leisurely rate. Forget all that. In the Berkut, roll rate is fast and effort very low. In fact, for the first few minutes in the airplane, it's the average pilot's tendency to overcontrol, appearing at the helm more like Keenan Wynn than Chuck Yeager. After a time, the forces become familiar, but even so much as

checking a chart enroute requires a substantial degree of effort to keep the wings level. A single-axis autopilot—which the factory Berkut has installed but was not working at the time of our flight—ought to be mandatory equipment for the cross-country traveler.

Indeed, handling the long haul proves one of the Berkut's finest traits. With a fairly roomy front cockpit and an adequately large rear station, two can make



vacation plans come true without having to leave *everything* behind. Unfortunately, baggage must be consigned to the cutouts in the strakes next to the back-seater.

Limited baggage space hearkens to the Long-EZ roots, but not much else of the Berkut's construction does. In typical EZ fashion, the wings, canards, and vertical stabilizers are made up of foam-core composites. Still, the Berkut uses carbon skins on the wings and strakes, and carbon spar caps on the main wing and canard; the high-tech composite is also used in the cowlings and canopy frames. One nice touch: The Berkut kit contains the foam cores cut to approximate shape, saving a great deal of time. The fuselage is also a radical change from the Rutan methods. It's molded in halves out of wet-layup fiberglass that's vacuum bagged and oven cured to, as one company wag says, a golden brown. All of the carbon fiber results in an amazingly stiff airplane, especially so in the wing structure. It's immediately evident upon encountering turbulence. Where most Long-EZs flex in the bumps, the tips of



the Berkut's wings hardly quiver.

That Ronneberg sweated the structural details is fine, but what probably pays the greatest dividends is his attention to style. From the armpit air intakes to the graceful nose, the Berkut seems to evoke a kind of slender menace that, to this eye, the basic Long-EZ lacks. Experimental sells the kit components for \$29,490; you get to add an engine and propeller, paint, interior, and avionics. Estimated build time is 1,500 hours. □

Experimental Aviation, Incorporated
3025 Airport Avenue
Santa Monica, California 90405
310/391-1943