



Fast and eye-catching it is. But the Q-200's quirky ground handling has been a problem for some owners.

KITS

QUICKIE

One of the fun, fast, foam-and-fiberglass originals

Reclining in the left seat of a Q-200 with one hand encircling the side-stick and the other grasping the throttle, it's easy to imagine yourself poised on the starting line at the Reno National Air Races, about to smoke the competition in a high-speed dash around the pylons. That intoxicating promise of speed, blended with the high-tech panache of canard configuration and smoothly sculptured composite construction, has proven to be an irresistible combination for hundreds of homebuilders. Approximately 500 single-place and 1,000 two-place Quickie kits have been sold to pilots who dream of rocketing around the skies in their personal *Star Wars* X-wing fighters.

The Quickie got its start in November 1977, when a tiny, 240-pound aircraft de-

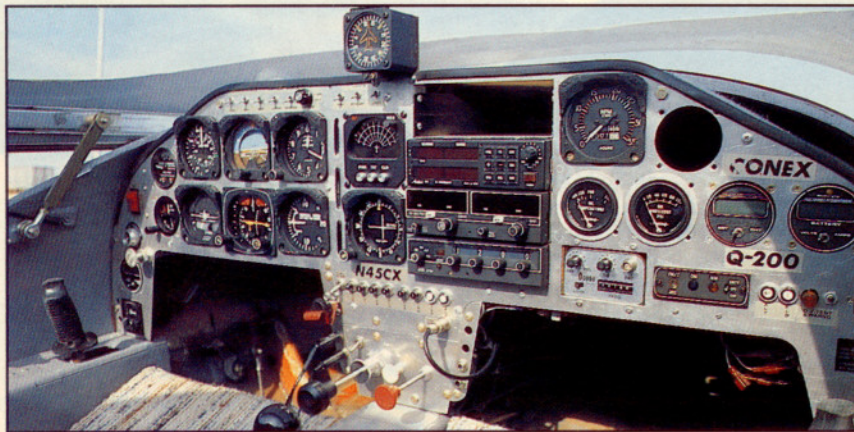
signed by E. L. (Burt) Rutan made its first flight. Rutan designed the Quickie for Eugene Sheehan and the late John T. Jewett, who formed Quickie Aircraft Corporation in Mojave, California, to sell kits. Typical of Rutan's designs, the Quickie was an exercise in form-follows-function. In this case, the function is efficient, inexpensive fun. Powered by an 18-horsepower, two-cylinder, four-stroke Onan industrial engine, the Quickie achieves cruise speeds of 90 to 100 knots on about 1.5 gallons of automotive gasoline per hour.

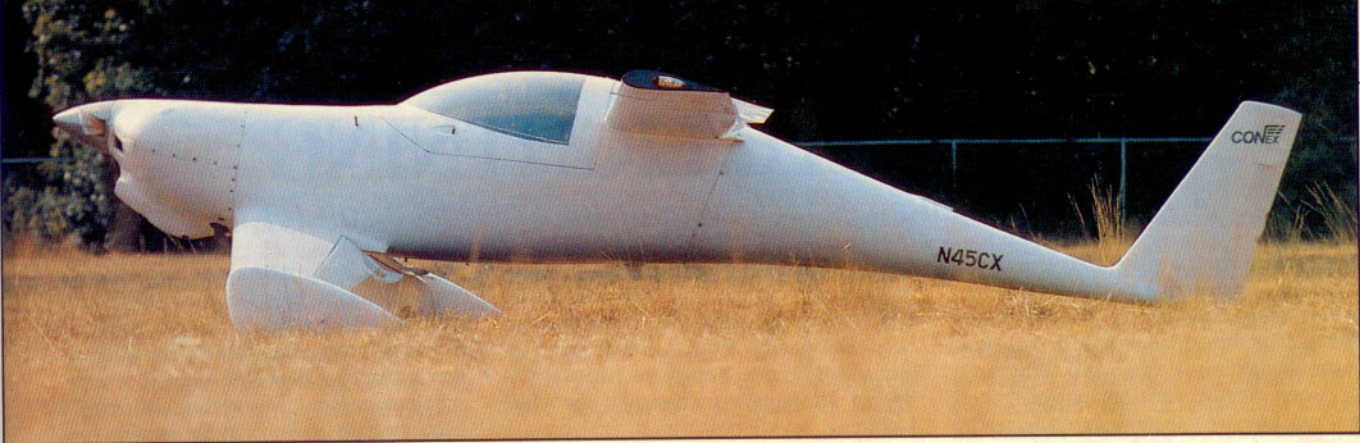
Perhaps most attractive to homebuilders, the Quickie is relatively inexpensive to buy and easy to build. The Quickie was not the first fiberglass-and-foam homebuilt with a canard—Rutan's VariEze first flew in May 1975. But while the VariEze had to be built

from plans supplied by Rutan Aircraft Factory and materials obtained elsewhere, the Quickie can be built from a kit sent by the manufacturer. The price is right, too. A kit with engine cost \$4,850 in 1980 (the current price is \$7,195 with a 22-hp Onan, which now is the standard engine) and, according to Quickie Aircraft, takes only about 400 hours to build. Even applying the rule of thumb that calls for doubling the manufacturer's estimate of building time, the Quickie goes together quickly compared to many kit aircraft.

The price a Quickie pilot pays for low-horsepower fuel efficiency is marginal takeoff and climb performance. The Quickie also developed a reputation for tricky ground handling. The brake system is crude: A cable connects a pull handle in the cockpit to steel tire scrubbers on each main wheel mounted on the tip of the canard. There is no differential braking; a steerable tailwheel provides the only directional control apart from the small rudder. The owner's manual strongly recommends that pilots perform only three-point takeoffs and landings. Quickies also are prone to groundlooping. There is very little clearance between the main wheels and the fiberglass wheel pants, and a soft or flat tire can scrape against the pant and send the aircraft into a groundloop. (The manual notes that during flight testing, the prototype Quickie was safely groundlooped at speeds up to 30 mph.)

The Quickie's behavior in a stall is more docile. The angle of incidence between the





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canard and rear wing is such that at a power-off speed of 43 knots (49 mph), or 46 knots (53 mph) with power, the rear wing still will develop lift even though the canard may have stalled. In this manner, the Quickie achieves its pitch stability. As the canard reaches its stalling angle of attack the nose pitches down slightly, and, as the airspeed increases, the canard again develops lift. Theoretically, the main wings never stall.

The builder uses an electrically heated wire to cut blocks of rigid foam into wing and canard airfoil shapes. The foam is bonded to carbon fiber spars, covered with layers of fiberglass and epoxy resin and cured at room temperature. The finished airfoils then are attached to fiberglass-and-foam fuselage shells, and the detailed systems installation and finishing work begin.

On July 1, 1980, the prototype Quickie Q2 made its first flight. Now powered by a 64-hp Revmaster 2100-DQ engine based on a 1,600-cc Volkswagen engine, the Q2 overcomes two shortcomings of the original design: the lack of a passenger seat and low performance. Quickie Aircraft claims that at a gross weight of 1,100 pounds, the Q2 will

climb at 1,200 fpm and cruise at 148 knots at 75-percent power. The Q2 kit also comes with a premolded fuselage shell. The Q2 was designed by Sheehan, Jewett and Gary LeGare. Rutan, who received royalties from the sale of single-place Quickie kits, was not involved in the two-place project.

The latest Quickie, the Q-200, was introduced in March 1982. A Q2 airframe powered by a 100-hp Continental O-200 engine, the Q-200 cruises at 180 knots at 75-percent power and climbs at 1,600 fpm, according to Quickie Aircraft. One other important change was incorporated on the Q-200 and, subsequently, on the Q2: a NASA-developed canard airfoil that corrected a pitch-down tendency in the Quickie and Q2 when airflow over the canard was disturbed by precipitation, bugs or dirt.

Despite a switch from tire scrubbers to hydraulic disk brakes, ground handling in the Q2 and Q-200 is as much a concern as in the single-seat Quickie. Experienced Quickie pilots say small changes in weight and balance have a dramatic effect on low-speed handling qualities, as does the angle of incidence between the two wings. An incorrect angle of

incidence can affect elevator effectiveness and stall speed. The solution to the Quickie's skittishness on the ground is a tricycle-gear conversion, developed by a Quickie builder, B. Scott Swing, of Tipp City, Ohio.

The Quickie promise was of radically new aircraft that are inexpensive to buy and fly, easy to build, beautiful and fast. However, some builders have discovered that flying their Quickies has been more difficult than the enticing descriptions contained in lush Quickie brochures would indicate. And for Quickie Aircraft, survival in the kit aircraft market has become a real question as the initial interest in its designs has waned and legal problems have arisen. Quickie Aircraft is operating under the provisions of Chapter 11 bankruptcy while it appeals a \$155,000 lawsuit judgment stemming from the 1980 crash of a single-seat Quickie. Compounding the company's problems is the fall-off in sales of kits. New composite designs, such as the Glasair and Lancair, which offer more conventional aerodynamic configurations, perform better and are easier to build, have drawn customers away from Quickies.

—Mark R. Twombly