



*Decades old and built mostly of wood, Stelio Frati's gem, the Falco, retains a timeless beauty. Karl M. Hansen built this one.*



KITS

# SEQUOIA FALCO

*For those who want beauty, speed, fun...and customer support.*

The Falco F.8L is a sleek airplane that stands out on a crowded ramp like a thoroughbred among plow horses. Its good looks are matched by its performance, either as a cross-country tourer or in aerobatics. Designed 30 years ago by Stelio Frati and certified to the airworthiness standards of both Italy and the U. S., the Falco is back in production, after a hiatus of two decades, in the shops and garages of homebuilders.

Drawings and assembly instructions are available from Sequoia Aircraft Corporation in Richmond, Virginia, and almost all materials and parts are available in kits from Sequoia and Trimcraft Aero of Lyons, Wisconsin. Not included in the kits are the engine, avionics equipment, battery, alternator and tires. According to Alfred P. Scott, AOPA 498320, president of Sequoia, a Falco can be assembled from kits for about \$47,000, not including avionics equipment (a few of the airplanes have been completed with full IFR instrumentation, including autopilots).

Scott is reluctant to estimate building time, which is subject to variables. He notes that one builder claims to have spent three hours *thinking* about the tasks at hand for every hour he spent with tools in hand. For the 10 Sequoia Falcos built so far, construction times have ranged from 2,500 to 7,000 hours, with first-time builders at the high end.

Scott advises builders to spend a few

months studying the drawings and the thick construction manual before starting work. The manual devotes a few hundred pages to basics, such as reading diagrams and working with wood. A high-quality, quarterly newsletter keeps builders up-to-date on useful construction tips. Several Falco builders have described Sequoia's documentation, materials and customer support as exceptional. Some with experience in constructing other airplanes noted that the wood-and-fabric Falco is relatively easy to build.

A 160-horsepower Lycoming IO-320-B1A engine is recommended, but the plans also accommodate either a 150-hp IO-320-A1A or a 180-hp IO-360-B1E. Woodward governors and Hartzell propellers and spinners are available from Sequoia. Gross weight with the 160-hp engine is 1,880 pounds. At its maximum aerobatic weight, 1,650 pounds, the airplane is stressed for six Gs positive and three Gs negative. Fuel capacity is 40 gallons, all usable, carried in two tanks—one behind the firewall, the other behind the seats. A two-gallon header tank for sustained inverted flight is optional.

Sequoia has revised all the original construction drawings, because many design changes made during production in Italy were not documented. (For information on the airplane's history, see "Falco F.8L," October 1982 *Pilot*, p. 75.) Scott also has incorpo-

rated several of his own modifications to the original design. Among them are more efficient engine induction and exhaust systems. David B. Thurston, AOPA 061008, whose designs include the Grumman Hellcat and the Colonial Skimmer, helped solve engineering problems. Richard G. Snyder of the University of Michigan, AOPA 276273, an authority in crashworthiness, assisted in designing a 40-G occupant restraint system.

The airplane in the accompanying photographs was built by James M. De Angelo of Meriden, Connecticut. De Angelo, who previously built a Stolp Acroduster, said there was nothing particularly difficult about building the Falco and estimates he spent about 4,000 hours on the airplane. Besides common hand tools, only a drill press was required during construction.

De Angelo's Falco has a 160-hp Lycoming IO-320-B1A engine originally installed on a Piper Twin Comanche. At 22 inches and 2,300 rpm, the airplane cruises at 170 knots and uses 8.5 gallons of fuel per hour. At press time, De Angelo was making some drag-reducing modifications, including landing gear doors and hinge fairings, which he believes will add a few more knots.

The interior is snug but comfortable. N684JD has a Nustrini canopy, a popular option named after its designer, Italian air-racer Luciano Nustrini. For tall pilots, the standard



canopy provides somewhat more headroom.

The Falco is fun to fly. The controls are light and well-balanced. The airplane exhibits no bad habits during stall and recovery. Approaches require special attention to power management, because a high sink rate can develop with landing gear and flaps down. The trailing-link main gear, however,

makes every landing feel like a greaser.

It is not a particularly hot homebuilt; neither is it an airplane a novice should just strap into and fly. Wing loading is 17.5 lb/sq ft, much lower than the Swearingen SX300's 33.6 but slightly higher than the Mooney M20J's 16.4. Transition training is recommended for pilots.

If one were to rank aviation experiences, building and flying an airplane like the Falco F.8L would have to be near the top. Getting to the top of *anything* is not easy, but the documentation and support provided by Sequoia Aircraft make the Falco a dream that can come true for anyone willing to invest the time and money. —Mark M. Lacagnina