

SPORTPLANES™

Unbreaking the Bank

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Zenith STOL CH 750

Many pilots and a few publications—this one included—have focused on the new Light Sport Aircraft flyable by Sport Pilots as an instrument of progress in aviation. A new day is dawning. While still early in the game, what has become obvious is that the ready-to-fly segment, also known as the Special Light Sport Aircraft (SLSAs), has created some intriguing aircraft. However, few of these cost less than \$100,000 with equipment. And with those six-digit prices comes a big barrier to entry, something our readers have been quick and unrelenting in pointing out.

Many of these factory-built, ready-to-fly-away airplanes are sleek composites of European design and construction, and others are nicely turned out variations of nostalgic tube-and-fabric American taildraggers. All SLSAs have qualified to the ASTM standard, meaning their design, testing, construction, documentation and follow-on support are up to FAA-approved guidelines.

The Kit Solution

As a reader of this magazine, you probably know that many kit- and plansbuilt aircraft qualify under the LSA definitions. In fact, we count some 187 kitbuilt and 95 plansbuilt designs that meet the LSA criteria. Build them as you would any conventional Experimental/Amateur-Built airplane and fly them as a Sport Pilot. What could be better?

How about building your dream LSA on a working stiff's budget? With that in mind, KITPLANES® Editor-in-Chief Marc Cook invited me to select and describe eight kit airplanes that I have flown that meet LSA definitions and that you could get in the air for \$40,000 or less. Other criteria were that at least 10 of each type have been built and flown, and that the project is claimed to take less than 1500 hours for a first-time builder. Builder times typically include hours to get the aircraft airborne on its first flight and not finish prep and painting, and the numbers are usually optimistic.

All of the airplanes I picked have long histories, but several are being produced by relatively new companies. Some evolved from true ultralights, and others began as licensed sportplanes. Two are single-seaters, but their companies offer two-seat variants, which boosts the price.

Before proceeding, we should note that many more than eight designs meet our criteria, and you could build and fly them as LSAs. (See the table on Page 22 for the designs we think you can get flying for \$40,000 or less.) One more note: A few of the aircraft in the December-issue directory have become unavailable since the data was collected—we have updated our web-based database to reflect these events.

A Note On Prices

Before we get too far into this, a note about our pricing criteria. In achieving the under-\$40,000 goal, you'll have to live without fancy avionics—these are day/VFR airplanes—and you may not get to choose the highest-power engine option for the airframe. You might even get to build the engine yourself from a kit. Professionally sprayed paint and custom interiors are also not on your shopping list. We're not saying this price limitation will offer you little more excitement than the worst Hertz rental car, but moderation will become a familiar sensation. To the sampling, then.



CGS Hawk II Arrow

CGS Hawk II Arrow

Considering that the earliest powered ultralights were hang gliders onto which someone hung an engine and direct-drive propeller, and that the FAA originally required these "devices" to be foot-launchable, the introduction in early 1982 of Chuck Slusarczyk's enclosed-cockpit CGS Hawk was sensational—one of several ultralight firsts for this design.

Originally named Chuck's Glider Sales, Slusarczyk's company was at the forefront of design and sales of ultralight power systems by the late 1970s. He successfully patented his "Powered Hang Glider with Reduction Drive," but he declined to take legal action against his competition for patent infringement.

First seen by the public at the March '82 Sun 'n Fun fly-in at Lakeland, Florida, the CGS Hawk won Slusarczyk the Best New Design Award at the show, and a similar award at that summer's EAA convention in Oshkosh. One year later, it won the Dupont Kevlar ARV (air recreational vehicle) design competition. More than 100 aircraft competed.



CGS Hawk Arrow

I got to fly a CGS Hawk in early '83 and was favorably impressed. Late that year, the FAA's FAR Part 103 ultralight regulation became effective, soon followed by a waiver to allow two-place ultralight trainers including the CGS Hawk II. The Hawk II that I flew with Slusarczyk on a windy day from his home airport near Cleveland, however, had been built and licensed as an Experimental/Amateur-Built. He was a student pilot, and I was an active CFII and ultralight instructor.

The Hawk handled the low-altitude gustiness well, but we were bumped around considerably. I tried the over-the-shoulder flap lever at altitude but left flaps up for our landing. On approach we prepared for burble and a stiff crosswind. "Chuck," I said, "I'll sign you off for another 90 days of solo if you manage to get us on the ground without bending anything." He did, and I did.

Slusarczyk is no lightweight, and his size probably helped tame the Hawk's gust response; I would not have liked flying the Hawk II solo that day. At Oshkosh the next summer, another high-volume ultralight producer and Slusarczyk vied for the title "World's Largest Ultralight Manufacturer." The title was secured after both stepped on a set of scales. Chuck won. In 1999, he was inducted into the Ultralight Hall of Fame.



Kitfox Aircraft Super Sport

Kitfox Aircraft Super Sport

First thoughts for this feature were to include the Kitfox Classic IV to represent a line of aircraft that has been among the most popular. But John and Debra McBean, who now produce Kitfox kits, have decided to concentrate on the Super Sport model; the Classic IV is no longer available.

The Super Sport kit costs \$5000 more than the Classic IV did, and we learned recently that the price of the recommended Rotax 912S (100-horsepower, four-stroke) engine will go up about \$1400 before you read this (another example of the euro/dollar effect on our lives). Ordering the 80-hp Rotax 912 engine—which should work well in the Super Sport—may lower the price enough to duck under the \$40,000 ceiling if you can do without fancy avionics and instrumentation.

I flew the original Kitfox prototype with Denney Aircraft founder Dan Denney in the fall of 1984 at Elsinore, California. That was shortly after he and Avid Flyer designer Dean Wilson parted company at Avid Aircraft. During the height of competition, the two companies—based 9 miles apart near Boise, Idaho—were both producing and selling close to 50 kits each month. By then, Wilson and Denney had moved on to other things, but their legacy remains today in the large Avid and Kitfox fleets.



With the Lycoming O-233 on the nose, the Kitfox Series 7 Super Sport takes on a pert, compact appearance. Powered initially by a Rotax 503 two-stroke, the first Kitfox was light enough to perform well with about 50 hp, even with partially inflated (it turned out) Full Lotus floats. I flew dual with Denney and then solo out of Lake Parker at Lakeland, Florida. The need for considerable rudder to keep the ball in the center (early Kitfoxes lacked sufficient vertical tail surface, especially when equipped with floats) and alligators on or near the runway (Lake Parker) divided my attention.

Early and later Kitfoxes were always fun to fly, and thousands flew them. Computer marketing pioneer Phil Reed bought rights to the Kitfox line, changed the company name to SkyStar, brought out new sleeker looking models including trigears, and sold the company when sales began to slacken, possibly because of near market saturation for this particular nostalgic look. Several groups of investors made Kitfox kits for a while, but the project eventually collapsed into bankruptcy. The McBeans, through Herculean efforts, have put the venerable Kitfox, or at least one top-end model, back in the game.



Lockwood Aircraft Super Drifter

Lockwood Aircraft Super Drifter

Produced by the Maxair Aircraft Corporation at the height of the ultralight boom, the original single-seat Drifter featured a 28-hp Rotax 277 engine. Its cable-braced wing and aluminum fuselage tube resulted in a rigid design that was soon expanded to include a two-seat trainer version and a short-wing, overpowered single-seat hot rod that was well outside ultralight limits. Some Drifters were equipped with monohull or dual floats.

Maxair declared bankruptcy in 1991, and the Drifter project was picked up by Phil Lockwood, who had worked for Maxair. Involved in a National Geographic project that used a modified Drifter as a camera platform, he was approached about flying for a follow-on feature on the African Ndoki rain forest, a large area that is completely inaccessible for landing. Lockwood convinced the television people that a single-engine aircraft would be unsafe, and his twin-engine design, the Air Cam, was used successfully. It has since become a spectacular kit airplane based on the open-frame Drifter concept.



Lockwood Aircraft Super Drifter

His company, Lockwood Aircraft, now kits the Super Drifter, a two-seat version powered by an 81-hp, four-stroke Rotax 912UL engine. With its standard 10-gallon tank, the Super Drifter claims a range of about 200 nautical miles at a cruise speed of about 60 knots—perfect for low-altitude, warm-weather exploring or short trips.

Flying the two-seat Drifter and the similarly configured Air Cam has always been a joy. Drifter controls and handling are sport-airplane conventional, and power is more than adequate. It's worth noting that the rather short main landing gear legs and a long fuselage result in a

nearly level three-point attitude on the ground. First-time front-seat pilots would benefit from climbing aboard, sitting awhile, and noting the angle between the Drifter's small nose cone and the horizon. That's the ideal landing attitude, and there is little ahead for a pitch reference.



Preceptor Aircraft Super Pup

Preceptor Aircraft Super Pup

Bob Counts developed the single-seat N-3 Pup in the mid-'80s as what might be termed the third generation of ultralights. The first generation consisted of open-frame, out-in-the-breeze flying machines such as the Quicksilver line. The second generation is represented in this review by the original CGS Hawk, which provided a "cabin," or at least a covering that kept the breeze off the pilot.

With the N-3, however, Counts went beyond a simple enclosure. The Pup was among the first ultralights to resemble a general aviation aircraft, the Piper J-3 Cub in this case. Like several innovative ultralights, the N-3 Pup won a Best New Design award at its first Sun 'n Fun appearance. The N-3 Pup was followed by Counts' larger Super Pup. Empty weight (450 pounds) and flight speeds take it out of the ultralight category.

I traveled to Hendersonville, North Carolina, to fly the Super Pup, which was powered with a Mosler Motors four-stroke VW-based engine of about 50 hp. The engine/airplane combination worked really well. Everything about the Pup seemed conventional for a low-powered, high-wing taildragger, and flight handling did in fact resemble my memories of flying J-3 Cubs. A logbook entry from April 22, 1986, confirms my memory of gusty crosswind conditions on a short, narrow strip and wheels-landing touchdown with the upwind wheel first. The Super Pup handled the situation gracefully.

Initially produced by Nostalgair, N-3 kits were subsequently made by Mosler Motors, which eventually sold kit production rights back to Counts. A company named TEC took over engine production from Mosler, but it quit making engines in 1991. At that point, Preceptor began

assembling VW-based engines of various strengths. The 70-hp version remains the recommended engine for the Super Pup. Wing and fuselage kits may be bought separately, but one can save \$1400 if they're purchased together. A firewall-forward package for \$7600 is for the 70-hp Preceptor VW-based engine that claims a 1400-fpm climb rate. Bob Counts' son Duwayne runs Preceptor now.

For two seats and more money, consider the Preceptor Ultra Pup or STOL King.



Quicksilver MXL II Sport

Quicksilver MXL II Sport

Maybe the most interesting features of the MXL II Sport are that it is still available and that it can be built as an Experimental/Amateur-Built and flown as a Light Sport Aircraft.

The original Quicksilver ultralight sprang from the mind of hang glider pilot Dick Eipper and other like-minded sand-dunes aviators in the 1970s. His Quicksilver was an early and successful attempt at a rigid-wing glider intended for better glide performance than the standard Rogallo flex-wing hang gliders.

Eipper Formance was one of the first manufacturers of high-quality, mass-produced, bolt-together powered ultralight kits. A lot of us earned our initial ultralight wings in the single weight-shift swing seat of a Quicksilver powered by engines such as a 19-hp Yamaha two-stroke. Good design, high-quality parts, effective marketing, and a dealer network that emphasized start-from-scratch and licensed-pilot transition training resulted in Quicksilver's leadership in the early and middle 1980s. In 1983 the plant moved to larger quarters in Temecula, California, to accommodate increased production, a worldwide dealer network and more than 100 employees.

By that time the single-seat Quicksilver had evolved to become the three-axis-control MX, and a waiver to the FAA's Part 103 ultralight regulation allowed two-seat trainers. The MX II became one of the first. Before the waiver, I instructed ultralight pilots by talking, demonstrating and supervising crow-hopping student Quicksilver pilots with one-way radio contact. Arrival of the legal two-seat trainers put an end to speaking-from-the-ground flight instruction.

All of the Quicksilvers are easy to fly but require professional training for everyone who has not flown these light-wing-loading aircraft. With the termination of the two-seat ultralight training waiver at the end of January this year, legal paid flight instruction in machines such as the MXL II Sport is no longer available. But checking out licensed pilots in an N-numbered MXL II Sport so they could safely solo single-seat Quicksilver ultralights would be a lot of fun, and it would justify building a new copy of the old MXL II, a relic that introduced thousands of people to recreational flying.



RANS S-7S

RANS S-7S

The RANS S-7S Courier is one of those sportplanes that seems to have been around forever. In fact, the first one flew in 1985, but this sturdy two-seat taildragger has evolved considerably in the last 23 years. S-7 designer/RANS CEO Randy Schlitter noted as we prepared to fly a Courier early last year that the airplane has doubled in empty weight and power since its first flight.

The Courier has also expanded its market. It is one of the few aircraft that is offered as an Experimental/Amateur-Built kit and also as an FAA-approved, factory-built SLSA. As mentioned in the March 2007 "Light Stuff" column, the S-7LS is delightful to fly and handles turbulent air well. The cockpit is large, and the standard Rotax 912S engine provides plenty of power.

The S-7 is near the middle of a long line of Schlitter designs now including the S-19, a low-wing LSA also intended for both kit and factory-built options. The kit will cost about \$9000 more than the S-7S kit.



You might miss the details on the S-7S's constant-chord wing, but the absence of aileron spades tells you this is the latest version, a sweet-handling delight.

As with the Kitfox Super Sport, the worsening euro/dollar exchange rate presents a challenge to keeping the S-7S kit project under our \$40,000 target. The airframe kit costs \$19,900 for everything behind the firewall needed to fly except instruments and paint. The \$4150 engine installation package includes engine and flight instruments, but the price of a new 100-hp Rotax 912S will break our \$40K budget. RANS expects the engine to cost its customers about \$17,500 (which, incidentally, is considerably below list price). Nearly everyone is opting for the 100-hp Rotax, but a new 81-hp 912UL would cost about \$1200 less. A good used 912S (if you can find one) should keep an S-7S project under our arbitrary ceiling. Yet for comfortable cross-country capability, the Courier would also need a radio, transponder and a nav system. Those RANS S-7S fans on a fixed budget will face some tough choices.



SNS-8 Hiperlight

SNS-8 Hiperlight

This all-metal, single-seat staggerwing biplane evolved from the late Hobie Sorrell's original aerobatic staggerwing Hiperbipe, which was marketed as a plansbuilt project. He also designed a single-seat version called the Sorrell Guppy. In the early '80s—at the height of the ultralight boom—one of Hobie's sons, Tim Sorrell, designed a lighter, all-metal ultralight version of the Guppy and named it the SNS-8 Hiperlight. Siblings Mark, John and Lisa joined Tim in a company that marketed the Hiperlight, which was quite different from other ultralights.

I flew the Hiperlight in '84 and was so impressed with it that I bought a kit, built it over a few months in 120 hours, and licensed it in the Experimental/Amateur-Built category. The kit features a finished and powder-coated 4130 welded-tube forward fuselage and a welded 6061-T6 aluminum aft fuselage. The wings and tail were built from premade parts, and presewn slip-on covering made finishing the airplane easy. Originally powered by a single-cylinder, 28-hp two-stroke Rotax 277 with a Hegar belt reduction drive, the current kit features a 28-hp MZ 201 two-stroke engine.

Probably because of their late father's excellent reputation as a designer, the Sorrells were able to convince the FAA to grant an exemption to the ultralight speed limit (55 knots level at full power). They needed it, because the Hiperlight easily flew at 65 knots. The Hiperlight is a delight to fly. Its full-span sheet-metal ailerons provide a snappy roll rate, and controls are nicely balanced. As with many ultralight designs, the stall is without a break; it is simply a mush easily controllable in all three axes.

The SNS-8s had an unusual characteristic for taildraggers: They could be landed gracefully in any pitch attitude from a nose-really-high, tailwheel-first one-pointer to a fly-it-on-level wheels landing. Most taildraggers object to this treatment, generally insisting on getting the

stick forward immediately upon mainwheel touchdown for a wheelie, and coming close to getting all three wheels to the surface simultaneously for anything resembling a graceful three-pointer. If my partner had not lost his medical, I might still have our Hiperlight. There's also a two-seat, side-by-side version, the SNS-9, powered by a Rotax 503. The current SNS-9 airframe kit price is \$19,900.



Zenith STOL CH 701

Zenith STOL CH 701

Canadian immigrant Chris Heintz (originally from France) designed a whole series of sheet-metal airplanes and turned out kits and plans from Nobleton and then Midland, Ontario, before building the first STOL CH 701.

Included in the Heintz lineup were other sheet-metal two-seaters plus an interesting flexible-wing ultralight, the Zenair Zipper. In addition, Heintz marketed kits for the tiny aerobatic French Cri Cri twin, which used a pair of 25-hp PUL engines on stalks growing out of the nose. (I was present for the first flight of one of the few Cri Cris built from Zenair kits.) Chris's son Sebastien now heads Zenith Aircraft Company in Mexico, Missouri, where the current Zenith kits originate.

The STOL CH 701 is not misnamed; it really is a short-takeoff-and-landing plane that can operate from incredibly small spaces. The company notes that 750 of them have flown, and some were built specifically for use by missionary and medical personnel in isolated back-country terrain without airports.



The 701 is one of Zenith's family of high-wing STOL models.

My CH 701 flights from Midland were powered by a two-stroke Rotax 503. Even with a maximum of 47 hp on the single-carburetor 503, the airplane leaped off the runway in a few hundred feet and climbed steeply. Now using the preferred 100-hp Rotax 912S, the CH 701 takes off in 90 feet and lands in 140. Fixed leading-edge wing slats delay airflow separation, resulting in a 26-knot stall speed. That allows steep departures and approaches to clear obstacles. Once I high enough to react properly if the engine failed, I was comfortable slowing to 30 knots in a full-power departure.

Featuring CNC precut and predrilled aluminum skins, the CH 701 is easy to build quickly. On three occasions, Zenith demonstrated this with kit startup, completion and first flights in seven days using volunteers at the Florida Sun 'n Fun fly-ins.

Summarizing

Many kit aircraft qualify as both Experimental/Amateur-Built category projects and as LSAs. The eight designs presented here are, for the most part, modern versions of amateur-built kits and ultralights. Read the "Light Stuff" column in the coming months for reviews of some of the later kit aircraft that are also LSA legal.