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Flying the SAM LS

PERIODICALS - TIME-SENSITIVE DATED MATERIALS

Special Focus: Destinations P. 18

Sleep apnea policy delayed P. 8

The hottest trends in GA P. 17

What's ahead for LSA in 2014? P. 39



Photo by Ben Scialr

A return to the Golden Age of Aviation

By MEG GODLEWSKI

“Wow! What..is...that?”

That was the most common reaction when people first set eyes on the SAM LS at AirVenture 2013.

The Light-Sport Aircraft made its American debut at the annual event. The combination of a round cowl, tear-drop shaped wheel-pants and a side-hinged folding canopy give the airplane a decidedly classic look. To many people, the SAM LS looked like a World War II training aircraft, leading many to wonder if perhaps the polished silver airplane should have been parked on the other side of the taxiway in the Warbird area.

Comments like this make Thierry Zibi, president and founder of SAM Aircraft Co., smile, because the vintage look was precisely what he was aiming for when the SAM LS was under development.

“I wanted to design an aircraft that harkened back to the golden days of aviation, yet benefits from modern technology,” he explained. “I had the idea to make an aircraft that looked like a miniature World War II trainer, like a miniature de Havilland Chipmunk or North American Harvard or T-6, but at the same time make it modern.”

Zibi hails from France, but was educated in North America. He was bitten by the

aviation bug at the tender age of 19. He learned to fly, then began designing and building aircraft as a hobby. He earned his living in the world of finance, and it was the combination of those financial skills and a passion for aviation that led to the formation of SAM Aircraft Co. in 2009.

“The company is named for my son, Samuel, who was 2 years old at the time,” said Zibi.

The company is based in Quebec, Canada. Zibi holds pilot certificates in both France and Canada. With the help of a team of engineers, who also hold pilot certificates, the SAM LS took shape.

The LSA is a low-wing design with tandem seating and a folding canopy. The canopy is designed for quick removal so if the pilot wants to have the open cockpit experience, it is easy to do with the removal of three pins. This sets it apart from other low-wing LSAs on the market, many of which have side-by-side seating and a permanently attached bubble canopy.

The airplane is made of metal with a 4130 metal steel protection cage from the firewall up to the rear seat, according to Zibi.

“For protection, the 4130 cage is surrounded by aluminum,” he said. “We have tested the wings up to 7.9 Gs at a gross weight of 1,320 pounds. The airplane is really strong, yet aesthetically pleasing.”

Zibi noted that while most of the airplane is metal, the cowl is made of rounded fiberglass and painted silver. The wheel pants are also made of fiberglass for ease of removal.

Originally, Zibi envisioned a tailwheel design, but market research indicated a nosewheel-equipped airplane would be more popular. That doesn’t mean the tail-

wheel was taken completely off the board, he noted.

“Since there is more of a market for nosewheel equipped aircraft, that is what we built for the prototype,” he said. “We reinforced the rear of the tail-cone with double skin and additional bulkheads to put a tailwheel on the design in the near future.”



Photo by Meg Godlewski



Ground Photo by Ben Sclair



Inflight photos by Jean-Pierre Bonin

The airplane is powered by a 100-hp Rotax 912 ULS.

The cockpit has a decidedly modern feel to it with a Dynon Avionics suite that conforms to the ASTM standards for LSA and Advanced Ultra Lights in Canada.

“The airplane also has electric trim, electric flaps and starter,” Zibi said. “The seats are adjustable. The passenger sits in the rear. We worked hard to have the pilot seat in front for better visibility.”

The airplane holds 22 gallons of fuel and burns less than five gallons per hour at 120 mph in cruise flight, he added. The airplane stalls at 49 mph clean and 42 with flaps.



Photo by Ben Sclair

The SAM LS is certified as both an experimental and ready to fly design in Canada. As this issue was going to press, it was in the LSA certification process in the United States.

For the pilot who opts to have the building experience, the kit is designed to go together in approximately 900 hours. The kit comes with CNC, pre-drilled and pre-bent parts, and matched holes for easy assembly, Zibi noted. The quick-build kit, designed to reduce build time to as little as 500 hours, includes three wings, which are 75% completed. Fuel tanks are completed and installed. The fuselage and tail-cone are 75% completed and assembled. All skins and bulkheads are installed except the top forward skin. All welds are done at the factory.

The SAM LS prototype has a polished metal finish, but paint is also an option. Owners also have the option to include a BRS parachute, an autopilot, tinted canopy, and a rear baggage compartment.

As of last month, the prototype had more than 180 hours on it, with more to come as it makes its way around the United States to airshows and fly-ins, Zibi said.

The SAM LS is slated to be at this month’s U.S. Sport Aviation Expo in Sebring, Florida, SUN ’n FUN in April, and AirVenture in July.

As the hours on the prototype grow, so does the aircraft’s popularity, said Zibi.

“There are several kits out in Canada and a handful in the United States,” he said.

Launch price for a ready to fly model is \$131,000.

SAM-Aircraft.com

SAM LS

Max speed at sea level	125 mph
Never-exceed speed	150 mph
Cruise speed	5,200 rpm
Cruise speed at 7,500 feet	115 mph
Range at 7,500 feet (45% power with 30 minute fuel reserve)	419 nm
Rate of climb (sea level)	900 fpm
Service ceiling	13,000 feet
Standard empty weight	830 lbs.
Useful load	490 lbs.
Fuel capacity	22 US gallons
Oil capacity	3.17 quarts
Engine	Rotax 912 ULS
Takeoff Ground roll	350 feet
Total distance over a 50 foot obstacle	600 feet
Landing Ground roll	200 feet
Total distance to clear a 50 foot obstacle	580 feet

Pre-Flight

Landing

Takeoff

Specs & Performance





Photo by Jean-Pierre Bonin

Flying the SAM LS

By **BEN SCLAIR**

The SAM LS is named for the designer's son, Sam.

Designer Thierry Zibi and I met at Sandpiper Aviation at Meacham Airport in Fort Worth during October's AOPA Summit. We chatted for about an hour prior to climbing aboard the tandem two-seater for a flight around the area.

Thierry told me the SAM LS prototype we were going to fly had about 145 hours on the airframe, was "docile, safe and enjoyable," and to look for 70-75 mph on takeoff.

The SAM LS, in tricycle gear configuration, is designed with a 2° nose-down attitude to aid visibility on the ground, but does require the pilot to intentionally pull the plane off the runway.

We pre-flighted the plane, fired it up and taxied to the active runway. As I pushed the throttle up, the Rotax 912 ULS brought us up to speed quickly, and I gave the stick a yank and skyward we went.

With the nose up, forward visibility was a bit limited, but many airplanes suffer this affliction.

The low clouds meant we were at altitude in short order. Pulling the power back a bit

to settle into cruise, visibility in all directions from the front seat was marvelous. As we plied along southwest bound, the SAM LS allowed me one of my favorite things to do when flying...look outside.

The SAM LS tracked straight. When entering a turn, it feels solid and intentional. No sloppiness in the controls.

Weather forced us to turn back toward Meacham for a full stop after a 20-minute outbound leg. Again on the inbound leg, I marveled at the lightness of the controls and the comfort of the cockpit. At 26 inches wide, there was plenty of room to stretch my elbows and not feel cramped.

This SAM LS's panel was nicely outfitted, but I wasn't flying the avionics, I was flying the airplane, which is what it's supposed to be all about.

On our way back to Meacham, Thierry lamented not having enough ceiling to do some stalls or performance maneuvers. To be honest, that didn't bother me in the least. For me, flying serves two main purposes. First for fun. Second to travel from point A to B. For this, the SAM LS is a most worthy candidate.

We entered the pattern, slowed down to flap speed and waited as we finished down-

wind, base and final. There were no surprises. None.

As the runway rose up to meet us, I pulled slightly to arrest the descent and a solid but smooth landing followed. We plane tracked straight as our speed bled off.

About 55 minutes after firing up, we shut down in the same parking spot.

Thierry shook my hand and offered me the

compliment of telling me he didn't touch the controls at all. For a pilot who just recently became current after an 11-year hiatus, that was nice to hear. A testament to the design styling of the plane.

If Sam, the son, grows up to be as well behaved and sweet as the SAM LS, Thierry should enjoy success as both a parent and plane maker.



Photo by Ben Sclair