



REMOS AIRCRAFT



CUBCRAFTERS

Here's a report card on the new industry as it enters childhood at age eight. There are indications the two-seat, 1,320-pound aircraft (1,430 pounds for LSA seaplanes) will continue to thrive with new models and willing customers. Some of the manufacturers, to include market leaders Flight Design, Tecnam, and Pipistrel, are stepping up into the world of four-seat aircraft built to Part 23 regulations.

A RINGING ENDORSEMENT. Certification has long been recognized as an important reason why some airplanes never make it to market, and other aircraft emerge with a high price tag. Enter the LSA industry with its core of hard-working ASTM committee members. Ten years ago they sat down to create standards all manufacturers could agree to, standards all must prove that they meet before their airplane can come to market. The FAA checks the paperwork to make sure the proof is there. That self-certification approach cut millions of dollars off manufacturing costs, and prices reflect that. Prices are still higher than many would like, but are much lower than a new aircraft from the traditional Part 23 manufacturers.

Now imagine that process coming to the fully certified (as opposed to self-certified) aircraft. A new committee of unreimbursed ASTM members, with the FAA as a one-vote member and AOPA as a strong advocate, is now formed and will determine how standards for larger aircraft—four-seaters and up—will be met. The

FAA will remain in charge of the regulation process, but industry standards will be used to prepare the aircraft for FAA inspection.

"The Part 23 companies...are now going to create industry standards much like we use in Light Sport," said Dan Johnson, a founder of the industry segment and head of the Light Aircraft Manufacturers Association. "I think it is a ringing endorsement of the Light Sport concept, which the FAA permitted, where the industry writes its own standards."

HANGING ON, MOVING UP. No, the market isn't flooded with LSA aircraft in the way its founders had hoped, but "it's sustainable," says Tom Peghiny of Flight Design USA. He, like Johnson, is one of the founders of the LSA movement.

The new four-seat aircraft built to more rigid (and costly) Part 23 standards are on the way in a year or so, providing a clear path from the two-seat aircraft to more capable ones. They include the Pipistrel Panthera, the Tecnam P2010, and the Flight Design C4—and while they may not begin deliveries until 2014, look for our pilot reports on them in 2013. It may be awhile before the majority of pilots start as students in the LSA world before moving up to larger aircraft, but founders believe it eventually will happen.

"Ultimately, a simpler system for producing aircraft has to be created for the long-term survival of recreational aviation," Peghiny said. "What form it takes, I'm not sure. There's two prongs: a more affordable method for certification and production,



CESSNA AIRCRAFT



FLIGHT DESIGN USA



TECNAM



EVEKTOR

and addressing our social responsibility for noise and pollution will become an issue in the future as well.”

There’s no lack of LSA models; 128 have been approved, although seven of those are out of production, leaving 121 to choose from. Those 121 are built by 90 companies, and that brings up a term reported here in 2008 that has yet to happen: an industry shakeout.

ABOUT THAT SHAKEOUT. The expectation of an LSA industry shakeout has been around since at least 2008, possibly earlier, but all the models stubbornly hang on. Johnson says that is about to change. There are no details, but it is likely that 2013 will mark the beginning of an exit from the market by companies reeling from a nasty recession.

“Now, people inside the industry are beginning to use the word ‘shakeout,’” Johnson said. “The market has now spoken and certain brands have risen to the top. The ones at the top now, the top 12 or 15 brands, are increasingly solid. If they weathered this period of time, gosh, they can weather just about anything.” He said deliveries in 2012 inched ahead of those in 2011, and lean companies stand ready to capitalize on the slightest movement forward in the world economy.

“This is a worldwide phenomenon. There’s a competition going on in India right this minute with the Indian Air Force selecting a Light Sport to use in its air force. China and

other countries in one way or another embrace the concept of these kinds of airplanes and this method of approving them,” he said.

Even the weight-shift aircraft, powered parachutes, motor gliders, and gyrocopters have solidified their markets, Johnson said. The leaders in those categories will survive along with the top fixed-wing manufacturers, but others in the middle may fall victim to the economy, he said. On his website, bydanjohnson.com, these are the 15 best-selling LSA companies: Flight Design, Cessna Aircraft, CubCrafters, Czech Sport Aircraft, American Legend (Cub), Tecnam, Remos, Jabiru, Evektor, Eastman (AMD), TL Ultralight, Aeropro (Aerotrek), LSA America, Rans, and Skykits. Those on the current list of best sellers ultimately may not survive the current economy. New companies are emerging with strong challenges, like Bristell (see “Personal Vision,” page 54); a fleet of new seaplanes is headed to the LSA marketplace as this is written. Van’s Aircraft brings a huge reputation for reliable aircraft to its new RV-12 LSA.

YEAH, BUT THEY WERE SUPPOSED TO BE \$60,000. Yes, there was a time when the market expected a \$60,000 LSA (and well before the LSA category was approved, say 2002, some thought it would match the lower-end price of a luxury car). That didn’t happen, almost from the start, yet today the newest model on the market—announced as this is written—is a \$75,000 Tecnam.



JABIRU USA



RANS



SKYKITS



TL ULTRALIGHT

An Aerotrek is less than \$80,000 (see “Aerotrek: Half Price, Full Featured,” January 2012 *AOPA Pilot*). Others are available as well.

Manufacturers argue that it’s the customer who has set the perception of high prices. Most order the best of the options, such as glass cockpits, autopilots, and CD players. They want to hear “Ride of the Valkyries” while riding the air currents. That turns a \$130,000 LSA into a \$170,000 LSA, the argument goes.

“The reality is that people are willingly buying \$170,000 airplanes, because they want all that stuff on them,” Johnson said.

WHAT DOES THE FAA THINK? Various reports issued by the FAA in late 2012 indicate that FAA officials are pleased with the overall growth of the industry and feel safety has improved, especially when compared to the Experimental category of aircraft. However, they want to see further improvement.

Initial audits of five companies, sometimes involving six FAA personnel visiting a company over several days, indicated that while LSA aircraft are safe, the paperwork proving compliance with ASTM standards needs improvement. There will be eight domestic and eight international audits in 2013. (Or looking at it from the manufacturers’ point of view, manufacturers are unclear as to what sort of paperwork the FAA expects to see.) In one case, the dealer for the Criquet Storch (pronounced *stork*) was told there were airworthiness problems as well as paperwork issues. However, the three flying in this country were not grounded by

the FAA. The FAA stopped issuing certificates for Storch aircraft, thus halting sales, and the dealer has switched to selling ultralight aircraft.

FAA reports say the goal remains to make a success of the self-certification process used by the LSA industry, and to achieve a fatal-accident rate that is better than that of the fully certified general aviation industry. At the moment, that fatal accident rate is similar to Part 23 certified aircraft’s. Still, the FAA wants to achieve that goal without FAA type design certification or production certification—two certificates now required for fully certified Part 23 manufacturers.

The FAA sees a path of evolution for smaller aircraft, from Experimental to LSA, then to Primary category, and finally to Part 23 certification. FAA involvement increases at each level. The system had better work, given that there isn’t money in the FAA budget—or personnel—to fully regulate all levels. Under the Primary category, the manufacturer proposes a basis for certification and parameters to be used. The FAA can either accept or reject the proposal.

THE SUN WILL COME OUT TOMORROW. At the moment, the FAA is developing criteria for inspecting a new model or first offering of an LSA by new companies. Such aircraft can’t be sold until they are inspected. Given that there are 90 LSA companies, and only five audits have taken place with eight planned in the



AMERICAN LEGEND



CZECH SPORT AIRCRAFT



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United States and eight overseas, that means not even the top 20 companies in the LSA industry—where most of the market share is concentrated—will be inspected before 2014. The FAA needs help, which is why the agency will hand off audits to third parties—but not for three to five years. That may prevent a lot of new models from reaching the market in the meantime.

There are limits as well on Light Sport aircraft manufactured in the United States from being sold in some European countries. The United States does not require American manufacturers to have a type certificate or production certificate. Other countries do. For larger manufacturers the money for a higher level of certification is available, but not for small ones. Future negotiations may ease the problem—or not. When Cessna Aircraft officials found themselves limited by the problem, they took their Skycatcher from the LSA category to the Primary category for European sales (see “Buying Into the Dream,” page 62).

The very best news out of all of this is that a new and less expensive way of regulation is coming. A new certification method for Part 23 airplanes, based on industry standards but still regulated by the FAA, is already in development. Just as that is happening, new aircraft are emerging, such as electric airplanes. It appears there will always be something for enthusiasts to fly, despite dire predictions to the contrary. **AOPA**

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EASTMAN

Icon reaches 900 deposits

As this was written, Icon Aircraft was awaiting a decision from the FAA on its request for a weight exemption for its amphibious A5 light sport aircraft to be issued in return for a spin-resistant design. As you read this, the decision is either made or close to being announced.

Either way, Icon founder Kirk Hawkins said, the company is moving forward.



Icon Aircraft was born out of regulatory change that came with the Light Sport industry. At first there was no plan to build a specific type of aircraft, just a goal to reconnect aviation with the consumer in an imaginative way. The A5, with its folding wings and retractable gear all wrapped in a futuristic design, became the way to capture the consumer's imagination. It was a

success as shown by the company's claim of 900 orders.

“We're at one of the most important junctures for the future of general aviation. If general aviation does not learn how to reconnect with the average consumer, it will die,” Hawkins said. “It will continue to limp along as an anemic, marginalized industry. If it can connect with the mainstream consumer the way Apple would, the way BMW would, or Nike would, it can reignite what it used to be.

“The only way it is going to do that is through intelligent regulations that allow the industry to innovate more freely,” Hawkins said. He added that a new marketing effort on Facebook quickly drew 169,000 fans. **—AKM**

LSA industry a good start, but innovations needed

Bruce J. Holmes, once an aviation futurist for NASA and now CEO of NextGen AeroSciences, says the Light Sport industry is the best hope for moving general aviation into sustainable growth. But it doesn't go far enough.

Holmes, who has placed an order for an Icon A5 amphibious aircraft and is an advisor to the company, said avionics advancements are needed to make flying easier for the general public. The pace of innovations must increase if the industry is to survive, he said.

What if there could be a software copilot to help make decisions about airspace, unplanned weather, and cruising altitudes—all in real time? The simplest visual flight rules airspace can be daunting to a new pilot, even with moving maps. That's why his company is working on a software copilot that goes beyond the most modern glass cockpit of today. You'll hear more about his new product in the year ahead. **—AKM**



LSA AMERICA