

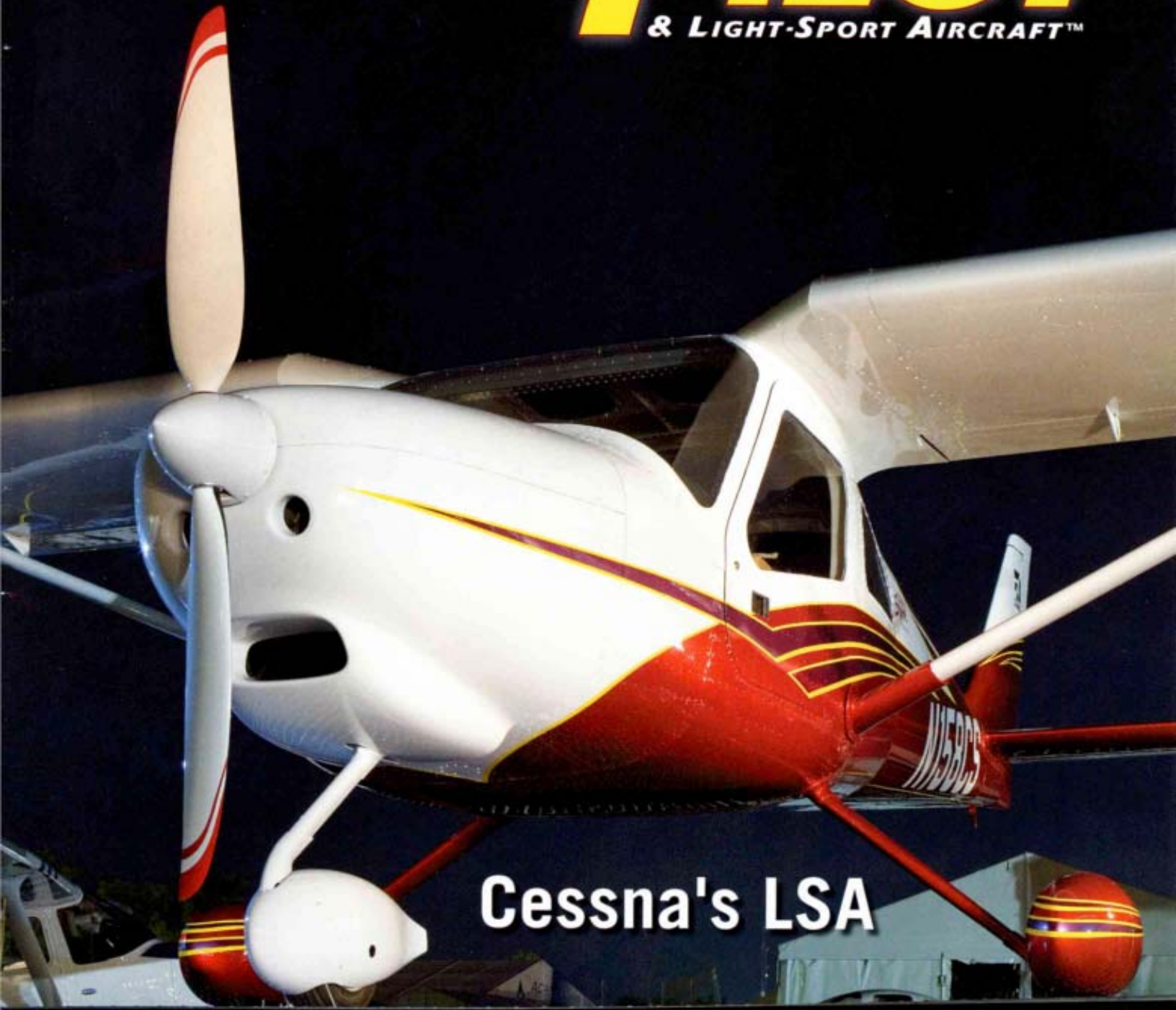
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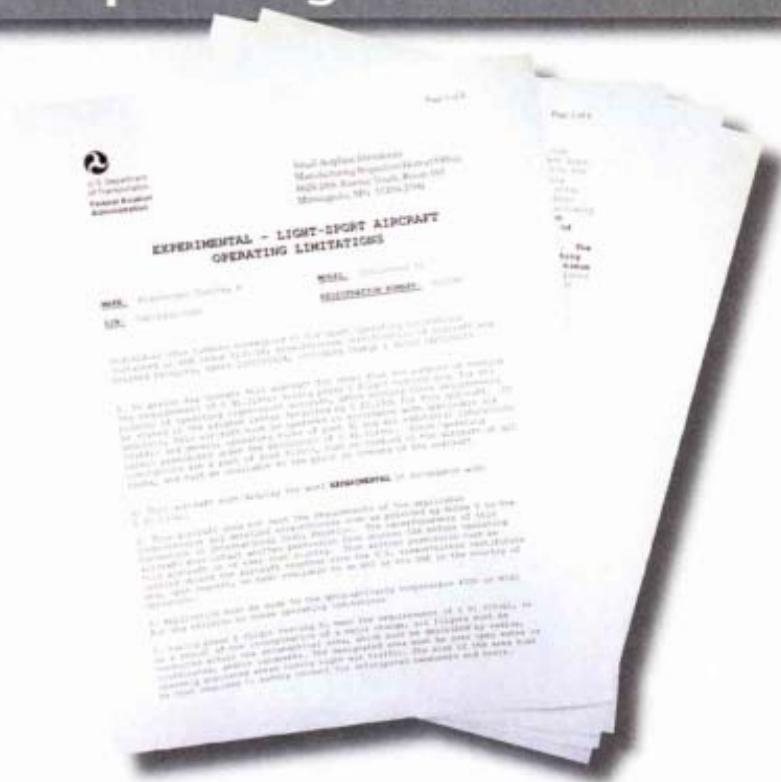


## **Cessna's LSA**

- AirVenture 2006 in Photos
- A Dad and Daughter Duo
- My Sport Pilot Practical Exam

# Flying made Easier for LSA Owners

## New operating limitations remove glitches



Operating limitations are the bible by which an experimental or light-sport aircraft owner must fly. They describe how and where the aircraft may be flown, when it must be inspected, what logbook notations are required, and more. They must be on board the aircraft during every flight.

The sport pilot/light-sport aircraft (SP/LSA) regulation is extensive. When it was released, everyone involved—including the FAA, EAA, and industry representatives—realized there would be a continuing need to correct, update, and revise the regulation as experience was gained with this new category of pilots and aircraft.

Since the implementation of SP/LSA, many holes, errors, omissions, and catch-22s were discovered, and the need for additional interpretation was recognized. The FAA worked with industry, EAA, and other aviation representatives to note those problems/concerns and make recommendations for changes.

In mid-July, the FAA corrected many of those “idiosyncrasies” via a change (Change 2) to FAA Order 8130.2F, *Airworthiness Certification of Aircraft and Related Products*. (FAA orders provide guidance to FAA employees, designated airworthiness representatives [DARs], and designated pilot examiners [DPEs] in the interpretation of regulations and FAA policies.) This particular order outlines the requirements and procedures for FAA inspectors and DARs to certificate all types of aircraft, including special light-sport aircraft (S-LSA), experimental light-sport aircraft (E-LSA), and experimental amateur-built (E-AB) aircraft.

The good news is these changes generally make life easier for the SP/LSA community! Let’s review what changed.

### Changes Affecting S-LSA

The new revision makes the following changes for S-LSA, including several clarifications and some substantive changes. Generally speaking, these changes affect manufacturers and not private owners.

- Clarifies that each production

aircraft (ready-to-fly S-LSA) must have a production flight-test permit. Each S-LSA produced is issued two different airworthiness certificates: the first is a production flight-test permit that allows the company to perform initial flight testing of the aircraft; after a successful flight test, the permanent airworthiness certificate is issued.

- Affirms that each S-LSA must be registered with the FAA (have an N number) prior to production flight testing in the United States.

- Allows a manufacturer's agent or dealer to be the registered owner of an S-LSA applying for a production flight-test permit. This allows S-LSA to be manufactured in other countries, shipped to the United States, assembled by an authorized manufacturer's agent or dealer, registered under the agent or dealer's name, issued a production flight-test airworthiness certificate, and then flight-tested. Following successful flight testing, the aircraft is then eligible for a permanent S-LSA airworthiness certificate.

- Allows FAA inspectors or DARS to issue LSA production flight-test permits by telegraphic means or fax, which means an inspector/DAR does not need to make two trips to the manufacturer/dealer's facility to fully certificate one airplane—a cost-savings for the manufacturer.

- Changes the operating limitations for the production flight-test phase as follows:

1. Reduces the required rating for a production test pilot from a commercial pilot to a private pilot with the appropriate logbook endorsement needed to act as pilot in command of that category/class LSA. The pilot also must have a minimum of 100 hours in category and class.

2. Clarifies that the test pilot may be the only occupant of the aircraft during production flight-testing.

- Changes the operating limitations for the permanent airworthiness certificate as follows:

1. Clarifies that night/instrument flight rules (IFR) flight requires not only that the aircraft be properly equipped per FAR 91.205 but also that the manufacturer's operating instructions allow night/IFR flight. (Additionally, the pilot must be a private pilot or higher and properly rated.)

2. Allows an annual condition in-



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The most significant change for E-LSA allows these aircraft to take off, fly, and land over densely populated areas after completing Phase I flight testing requirements. This aligns E-LSA with the requirements for amateur-built aircraft and opens up many more flying fields to them.

specification completed in the previous 100 hours of service to be used in lieu of a 100-hour inspection when the aircraft is used for compensation or hire.

- Adds a new paragraph that describes how to complete and review the 8130-15 Statement of Compliance form.

- Corrects samples of various forms, including the application for airworthiness, airworthiness certificate, and statement of compliance, thus making it easier for DARs to fill out the forms correctly.

### Changes Affecting E-LSA

The biggest changes relate to E-LSA. Recall that there are three types of E-LSA:

1. Existing unregistered "ultra-light-like" vehicles that meet the definition of an LSA, which must receive an airworthiness certificate prior to January 31, 2008 (per FAR 21.191(i)(1)—often referred to by DARs as the (i)(1) E-LSA).

2. Aircraft built from a manufacturer's S-LSA-compliant kit (per FAR 21.191(i)(2)—the (i)(2) E-LSA).

3. Aircraft originally certificated as S-LSA but subsequently re-certificated as E-LSA to allow easier maintenance, alteration, and inspection requirements (per FAR 21.191(i)(3)—the (i)(3) E-LSA).

It's also important to understand what an aircraft's operating limitations are and what they do. Every LSA must undergo an airworthiness inspection and receive an airworthi-

ness certificate before any pilot may fly it. The official airworthiness certificate is FAA Form 8130-7, which is presented to the aircraft owner by the FAA inspector or DAR when the aircraft passes inspection. However, there's more paperwork an aircraft needs before it can fly. A larger document, called the aircraft's operating limitations, details its flight privileges and limitations. The FAA inspector or DAR issues the operating limitations at the same time as the airworthiness certificate. A copy of the aircraft's operating limitations must be on board the aircraft, along

with the aircraft's original airworthiness certificate, and the aircraft's certificate of registration. (The pilot must have a photo ID—a driver's license suffices—and a current pilot certificate on his person.)

Operating limitations are the bible by which an experimental or light-sport aircraft owner must fly. They describe how and where the aircraft may be flown, when it must be inspected, what logbook notations are required, and more.

Previously, the three E-LSA types had different sets of operating limitations. With Change 2, all operat-



Phil High

The new change order clarified weight and balance language to add "weight and loading" terms for trikes and powered parachutes.



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ing limitations now apply equally to all three E-LSA types, with a couple of exceptions, and they are almost identical to those for experimental amateur-built (E-AB) aircraft. The revision makes the following significant and beneficial changes:

- All three E-LSA types are now allowed to:

1. Fly over densely populated areas after Phase I flight testing is completed when directed by air traffic control or when sufficient altitude is maintained to effect an emergency landing without endangering persons or property on the ground.

2. Take off and land over densely populated areas if the airport has at least one "FAA-acceptable" corridor.

3. Operate at night and in IFR conditions after Phase I flight testing is completed (when the aircraft is properly equipped and flown by a private pilot or higher with the proper ratings).

- Clarifies that the allowance for towing of an un-powered glider does not expire on Jan. 31, 2010, but continues on an unlimited basis as long as the airworthiness certificate is valid.

- Lists the exact category, class, and make/model endorsements a pilot must have.

- Corrects confusion in the 100-hour inspection requirement.

- Clarifies that it is not necessary for a two-place trainer converting to E-LSA status to have a pre-existing training exemption to be allowed to provide training or towing for compensation or hire.

- Adds terminology for "weight and loading" in addition to weight and balance, in recognition that center of gravity considerations for weight-shift and powered parachutes are different from fixed-wing airplanes.

- Affirms the requirement that any single- and two-place ultralight-type aircraft converting to E-LSA must have at least a five-hour Phase I flight-test period, regardless of how many hours it has already flown.

- Corrects samples of various forms including the application for airworthiness, airworthiness certificate, and statement of compliance. This will make it easier to fill out the forms correctly.

### A Real-Life Scenario

Why are E-LSA operating limitation changes so significant? Consider

this scenario: Flying buddies Jim and Darryl decide to go for an afternoon flight in their identical two-place Challengers. Jim's aircraft is certificated as an E-AB, while Darryl's is an E-LSA, both with the earlier operating limitations (prior to Change 2).

Both aircraft are based at an airport that has large suburbs at both ends of the main runway. Jim can legally take off on the main runway, but Darryl must take off on another runway where he does not fly over densely populated areas, no matter what direction the wind is blowing.

Once off the ground, our pilots fly over the county park, situated in the rural countryside outside their small town. A church barbecue is being held, and one of the attendees hates "ultralights." He gets enough of a description of the aircraft to nail down who owns them and calls the FAA on Monday to complain. The FAA issues a violation against both pilots.

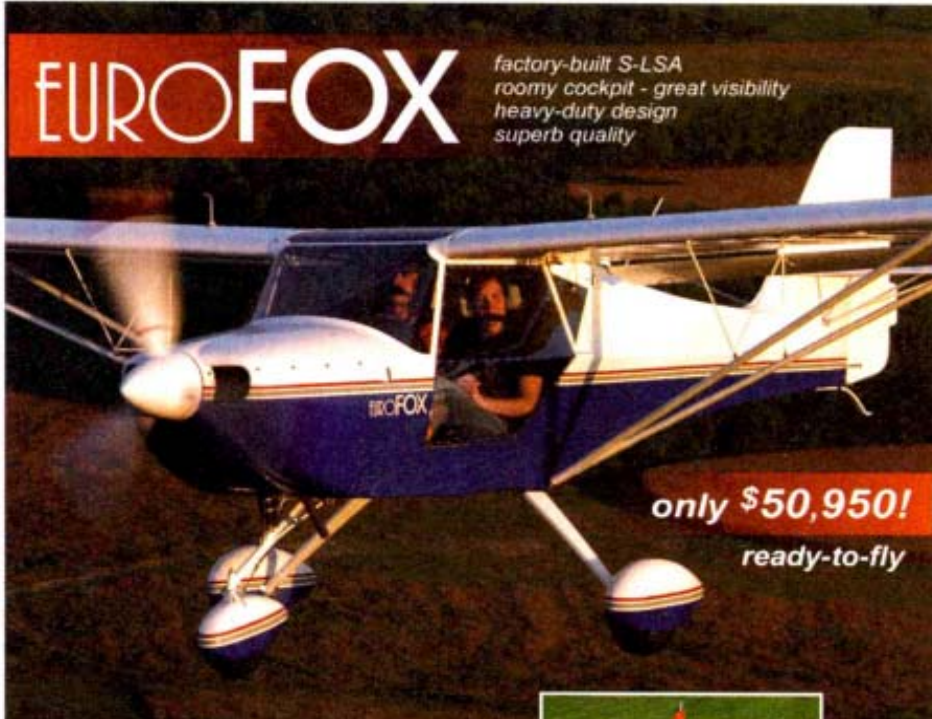
*The good news is these changes generally make life easier for the SP/LSA community!*

Here's where it gets interesting. If Jim can show he was maintaining sufficient altitude to effect a safe emergency landing as required by his operating limitations, he can defend himself against the violation. But Darryl has no such defense because of the way his operating limitations are written.

The good news is that the new revision erases the differences.

Jim and Darryl have another buddy, Bill, who is about to get his Challenger II certificated. Bill's operating limitations will be in accordance with the new revision, meaning he could fly over that church picnic with no problem.

But what about Darryl? Again, there is good news! The FAA office that has jurisdiction over the area where the aircraft is located may amend the operating limitations, or a DAR may issue a whole new airworthiness certificate and operating limitations. Either way, the new limitations will be in line with the new order. All Darryl needs to do is contact the appropriate FAA



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The new change order also clears up confusion regarding two-place ultralight-type aircraft used as trainers between now and when the ultralight training exemptions expire on January 31, 2010. Previously, only two-place machines that already had been registered as trainers could be used for training; the new order states that any two-placer converting to E-LSA status may be used for training until January 31, 2010. That includes powered parachutes, weight-shift trikes, and fixed-wing machines.

## EAA's Sport Pilot Tour CONTINUES...



EAA is continuing its inaugural **Sport Pilot Tour**, bringing EAA members—and the public—the information and tools they need to better understand and enjoy this new recreational-aviation opportunity. Tour highlights include sport pilot forums and educational opportunities for flight instructors—*plus*...light-sport aircraft manufacturer's displays and demonstrations. Come out and see us!

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office or DAR, request a recurrent airworthiness certification with new operating limitations, and fill out a new application form. The DAR or FAA inspector will not need to reinspect the aircraft (although they may do so at their discretion). "It's basically a paperwork drill," said Edsel Ford of the FAA's Light-Sport Aviation Branch in Oklahoma City, Oklahoma. (However, until Darryl receives his revised operating limitations he must abide by limitations he currently has.)


Then, with their new operating limitations in their aircraft, Jim, Darryl, and Bill will be legal to fly over the barbecue at the county park. *EAA*

Questions or comments? EAA members are invited to call EAA Aviation Services, 888-322-4636, or e-mail [info@eaa.org](mailto:info@eaa.org). Mike Huffman welcomes phone calls, 816-838-6235, e-mail [SportAviation@kc.rr.com](mailto:SportAviation@kc.rr.com), or visit his website, [www.SportAviationSpecialties.com](http://www.SportAviationSpecialties.com). Mike is a DAR who is also authorized to conduct LSA repairman training courses.




Jim Raeder

Gyroplanes, which can be flown by sport pilots if they meet the definition of an LSA as this Monarch gyro does, also benefitted from the changes to operating limitations for E-LSA.




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