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InFO

Information for Operators

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http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info

An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.

Subject: Safety Concerns of Lancair Amateur-Built Experimental Airplanes

Purpose: To alert owners/operators and pilots about a Federal Aviation Administration (FAA) operational safety concern regarding the Lancair amateur-built airplanes operating under an experimental airworthiness certificate.

Background: FAA analysis of fatal accidents for Lancair airplanes operating under an experimental airworthiness certificate has revealed a large and disproportionate number of fatal accidents for their fleet size. The Lancair fatal accident rate is substantially higher than both personal-use general aviation as well as the overall fatal accident rate for all amateur-built experimental aircraft. For example:

- While representing a little over 3 percent (%) of the amateur-built fleet, the Lancair contributed 16 % of all amateur-built fatal accidents over the last 11 months.
- During the last 11 months, nearly 65% of all Lancair accidents were fatal.
- Over the last four years, 53% of all Lancair accidents were fatal. The majority were due to apparent stall/spin accidents during slower flight, such as flying in airport traffic patterns.
- During this same period, 60% of all Lancair fatal accidents were the result of apparent loss of control, and nearly 60% of these occurred in the traffic pattern.

The Lancair is not type certificated in accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 23 – Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes. Stability, handling, and stall characteristics for the Lancair amateur-built experimental airplanes are different from general aviation airplanes that are type certificated under part 23. In addition to not meeting the part 23 certifications standards, the Lancair is a high-performance, hand-made (non-production) aircraft. Each individual Lancair airplane can have unique handling, stability, and stall characteristics. The fatal accident record indicates that these unique differences can expose pilots to additional risk during slow-speed operations while close to the ground and with little time to recover from an unintentional stall. Understanding these differences is critical for safe operation of the aircraft.

Recommended Action: The FAA recommends that pilots operating the Lancair amateur-built experimental airplane do the following:

1. Review and thoroughly understand all available information regarding the slow-flight and stall characteristics of their own Lancair. In addition, obtain specialized training from a certificated flight instructor (CFI) in their Lancair model or other similar high-performance airplane to experience slow flight handling characteristics, stall recognition, and stall recovery techniques.

2. Install a high-quality angle-of-attack (AOA) indicator to provide warning of an impending stall. Owners that already have an AOA indicator installed should have the calibration validated to assure proper operation. Lancair flight characteristics, including stall speeds, can vary from airplane to airplane, and many Lancairs have been known to stall with little or no warning.

3. Lancair owner/operators should have their aircraft evaluated by a mechanic with Lancair maintenance experience for proper rigging, wing alignment, and weight and balance.

4. Lancair airplane builders should use the services of experienced and qualified construction evaluators who are familiar with the Lancair construction, rigging, flight, and handling characteristics. This should be done before further flight.

Contact: Questions and comments on this InFO should be directed to the Flight Standards Service, General Aviation and Commercial Division, Certification and General Aviation Operations Branch, AFS-810, telephone 202-267-8212.