

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. CE197; Notice No. 23-03-01-SC]

Special Conditions: AMSAFE, Incorporated, Zenair Model CH2000, Inflatable Three-Point Self-Adjusting Restraint Safety Belt With an Integrated Inflatable Airbag Device

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This notice proposes special conditions for the installation of an AMSAFE, Inc. Inflatable Three-Point Self-Adjusting Restraint Safety Belt with an Integrated Inflatable Airbag Device on the Zenair model CH2000. This airplane, as modified by AMSAFE, Inc. will have novel and unusual design features associated the lap belt portion of the safety belt containing an integrated airbag device. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: Comments must be received on or before August 18, 2003.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration (FAA), Regional Counsel, ACE-7, Attention: Rules Docket, Docket No. CE197, 901 Locust, Room 506, Kansas City, Missouri 64106, or delivered in duplicate to the Regional Counsel at the above address. Comments must be marked: CE197. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Pat Mullen, Federal Aviation Administration, Aircraft Certification Service, Small Airplane Directorate, ACE-111, 901 Locust, Kansas City, Missouri, 816-329-4128, fax 816-329-4090.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of these proposed special conditions by submitting such written data, views, or arguments, as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. The proposals described in this notice may be changed in light of the comments received. All comments received will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Persons wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to CE197." The postcard will be date stamped and returned to the commenter.

Background

On March 8, 2003, AMSAFE, Inc. Inflatable Restraints Division, 1043 North 47th Avenue, Phoenix, AZ 85043, applied for a supplemental type certificate to install an inflatable lapbelt restraint with a standard upper torso restraint (or shoulder harness) in the Zenair model CH2000. The model CH2000 is a single engine, two-place airplane with a stall speed in the landing configuration that is below 45 knots.

The inflatable restraint system is a three-point restraint system consisting of a shoulder harness and an inflatable airbag lap belt, and will be installed on both the pilot and co-pilot seats. In the event of an emergency landing, the airbag will inflate and provide a protective cushion between the

occupant's head and the airplane's yoke and instrument panel. This will reduce the potential for head and torso injury. The inflatable restraint behaves in a manner that is similar to an automotive airbag, but in this case, the airbags are integrated into the lapbelt. The shoulder harness is conventional and does not inflate. While airbags and inflatable restraints are standard in the automotive industry, the use of an inflatable three-point restraint is novel for general aviation operations.

The FAA has determined that this project will be accomplished on the basis of providing the same current level of safety of the model CH2000 occupant restraint design. The FAA has considered the installation of airbags as having two primary safety concerns:

- That they perform properly under foreseeable operating conditions; and
- That they do not perform in a manner or at such times as to impede the pilot's ability to maintain control of the airplane or constitute a hazard to the airplane or occupants.

The latter point has the potential to be the more rigorous of the requirements. An unexpected deployment while conducting the takeoff and landing phases of flight may result in an unsafe condition. The unexpected deployment may either startle the pilot, or generate a force sufficient to cause a sudden movement of the control yoke. Either action could result in a loss of control of the airplane, the consequences of which are magnified due to the low operating altitudes during these phases of flight. The FAA has considered this when establishing the special conditions.

The inflatable airbag is integrated into the lap belt and relies on sensors to electronically activate the inflator for deployment. These sensors could be susceptible to inadvertent activation, causing deployment in a potentially unsafe manner. The consequences of an inadvertent deployment must be considered in establishing the reliability of the system. AMSAFE, Inc. must show that the effects of an inadvertent deployment in flight are not a hazard to the airplane or that an inadvertent deployment is extremely improbable. In addition, any general aviation aircraft can generate a large amount of cumulative wear and tear on a restraint system. It is likely that the potential for inadvertent deployment increases as a