

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 23**

[Docket No. 143CE; Special Conditions No. SC-23-ACE-93]

Special Conditions: EXTRA Flugzeugbau GmbH, Model EA-400; Heat Capability of the Engine Mount and the Fuselage Connection Joint

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the EXTRA Flugzeugbau GmbH, Model EA-400 airplane. This airplane will have a novel or unusual design feature associated with the Heat Capability of the Engine Mount and the Fuselage Connection Joint. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These 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.

EFFECTIVE DATE: March 2, 1998.

FOR FURTHER INFORMATION CONTACT: Kenneth W. Payauys, Aerospace Engineer, Standards Office (ACE-110), Small Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 601 East 12th Street, Kansas City, Missouri 64106; telephone (816) 426-5688.

SUPPLEMENTARY INFORMATION:

Background

On April 6, 1993, EXTRA Flugzeugbau GmbH applied for a type certificate for their new Model EA-400. The EA-400 design is a two-place (side-by-side), all composite material, cantilevered high-wing, retractable gear, unpressurized, single reciprocating engine airplane with a maximum design weight of 3,974 pounds (1800 kilograms). It is intended for 14 CFR part 91 operation as a day-VFR normal category airplane.

The proposed type design of the EXTRA Flugzeugbau GmbH Model EA-400 airplane incorporates certain novel and unusual design features for which the existing airworthiness regulations do not contain adequate or appropriate safety standards. These features include certain performance characteristics necessary for this type of airplane design that were not foreseen by the existing regulations.

This special condition addresses the flight safety of the EA-400 in case of an engine compartment fire with resulting heat conduction through the engine-mounts to composite structure joints beyond the firewall. The type certificate applicant shall demonstrate that the airplane structure design, especially the engine-mount attachments to the structure beyond the firewall, is able to retain the engine while withstanding the following:

1. An engine compartment fire, the loss of the most highly loaded composite joint, and heating of the next most highly loaded composite joint from those that remain;
2. Maximum continuous power for 5 minutes; and
3. Combined airplane flight maneuver and gust limit loads for at least 15 minutes.

Note: The engine-mount attachments at the firewall are not the same as the engine-to-engine-mount attachments, which contain vibration dampers.

Type Certification Basis

Under the provisions of 14 CFR part 21, § 21.17, EXTRA Flugzeugbau GmbH must show that the Model EA-400 meets the applicable provisions of 14 CFR part 23, effective February 1, 1965, through amendment 23-45, effective August 6, 1993; 14 CFR part 36, effective December 1, 1969, through amendment 36-21 effective December 28, 1995; exemptions, if any; equivalent level of safety findings, if any; and the special conditions adopted by this rulemaking action.

Special conditions are issued, as appropriate, under 14 CFR part 11 § 11.49 after public notice, as required by § 11.28 and § 11.29(b), and become part of the type certification basis in accordance with 14 CFR part 21, § 21.17(a)(2)).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of 14 CFR part 21, § 21.101(a)(1)).

Novel or Unusual Design Features

The Model EA-400 will incorporate the following novel or unusual design features: Heat Capability of the Engine Mount and the Fuselage Connection Joint.

Discussion of Comments

Notice of proposed special conditions No. SC-23-ACE-93 for the EXTRA

Flugzeugbau GmbH EA-400 airplanes was published on November 20, 1997 (62 FR 61926). No comments were received and the special conditions are adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Model A-400. Should EXTRA Flugzeugbau GmbH apply at a later date for a change to the type certificate to include another model incorporating the same level or unusual design feature, the special conditions would apply to that model as well under the provisions of § 21.101(a)(1).

Conclusion

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability, and it affects only the applicant who applied to the FAA for approval of these features on the airplane.

List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, Signs and symbols.

Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113 and 44701; 14 CFR 21.16 and 21.17; and 14 CFR 11.28 and 11.49.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for EXTRA Flugzeugbau GmbH Model EA-400 airplanes:

Heat Capability of the Engine Mount and the Fuselage Connection Joint

(a) Modify the airworthiness standards given in 14 CFR part 23, POWERPLANT FIRE PROTECTION, *Nacelle areas behind firewalls* (§ 23.1182), by making the most critical composite engine-mount attachment ineffective (assumed destroyed by heat). Then, for 15 minutes, apply an additional flame test of 500° C (932° F) to the next most structurally critical engine-mount of those remaining. The flame shall encompass the whole engine-mount structural attach fitting. Conductive heat will affect the metallic and composite joint structural capability beyond the firewall. Test the joint structural capability with these simultaneous limit load conditions (under these conditions, the engine shall remain attached to the airplane):

(1) The combined thrust, torque and gyroscopic loads resulting from the engine and propeller at maximum continuous power for the first 5 minutes, and

(2) The airplane normal inertial limit loads that result from the following:

(i) A maneuver load factor equal to that obtained from a constant altitude 30° bank, combined with

(ii) The positive and negative vertical design gust load factors that occur at the design maneuvering speed and the minimum flying weight, and

(iii) A factor-of-safety equal to one.

Issued in Kansas City, Missouri on January 22, 1998.

Marvin Nuss,

Assistant Manager, Small Airplane

Directorate, Aircraft Certification Service.

[FR Doc. 98-2399 Filed 1-29-98; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97-NM-256-AD; Amendment 39-10294; AD 98-03-02]

RIN 2120-AA64

Airworthiness Directives; Bombardier Model CL-600-1A11 and CL-600-2A12 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Bombardier Model CL-600-1A11 and CL-600-2A12 series airplanes, that requires replacement of the anti-noise filter on the standby and auxiliary power unit (APU) fuel pump assemblies with a new filter. This amendment is prompted by issuance of mandatory continuing airworthiness information by a foreign civil airworthiness authority. The actions specified by this AD are intended to prevent electrical arcing between the internal wiring and casing of the anti-noise filter on the standby and APU fuel pump assemblies, and consequent increased risk of fuel tank explosion or fire.

DATES: Effective March 6, 1998.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 6, 1998.

ADDRESSES: The service information referenced in this AD may be obtained

from Bombardier, Inc., Canadair, Aerospace Group, P.O. Box 6087, Station A, Montreal, Quebec H3C 3G9, Canada. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Engine and Propeller Directorate, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT:

Wing Chan, Aerospace Engineer, Systems and Equipment Branch, ANE-172, FAA, Engine and Propeller Directorate, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York 11581; telephone (516) 256-7511; fax (516) 568-2716.

SUPPLEMENTARY INFORMATION:

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Bombardier Model CL-600-1A11 and CL-600-2A12 series airplanes was published in the **Federal Register** on November 19, 1997 (62 FR 61706). That action proposed to require replacement of the anti-noise filter on the standby and auxiliary power unit (APU) fuel pump assemblies with a new filter.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the single comment received.

The commenter supports the proposed rule.

Conclusion

After careful review of the available data, including the comment noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Cost Impact

The FAA estimates that 84 Model CL-600-1A11 and CL-600-2A12 series airplanes of U.S. registry will be affected by this AD, that it will take approximately 20 work hours per airplane to accomplish the required actions, and that the average labor rate is \$60 per work hour. Required parts will cost approximately \$5,689 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$578,676, or \$6,889 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

Regulatory Impact

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

98-03-02 Bombardier, Inc. (Formerly Canadair): Amendment 39-10294. Docket 97-NM-256-AD.

Applicability: Model CL-600-1A11 series airplanes, as listed in Bombardier Canadair Challenger Alert Service Bulletin A600-0644,