DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. CE173; Notice No. 23–01–05–SC]

Special Conditions: Eclipse Aviation Corporation, Model 500 Airplane; Electronic Engine Control System

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This notice proposes special conditions for Eclipse Aviation Corporation, 2503 Clark Carr Loop SE, Albuquerque, NM 87106 on the Eclipse Model 500 airplane. This airplane will have a novel or unusual design feature(s) associated with the use of an electronic engine control system instead of a traditional mechanical control system. 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 April 10, 2002.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Regional Counsel, Attention: Rules Docket No. CE173, 901 Locust, Room 506, Kansas City, Missouri 64106; or delivered in duplicate to the Regional Counsel at the above address. Comments must be marked: Docket No. CE173. 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. Ervin Dvorak, Federal Aviation Administration, Aircraft Certification Service, Small Airplane Directorate, ACE–111, 901 Locust Street, Kansas City, Missouri, 816–329–4123, 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 Docket No. CE173.'' The postcard will be date stamped and returned to the commenter.

Background

On July 12, 2001, Eclipse Aviation Corporation applied for a type certificate for their Model 500 airplane.

The Eclipse Model 500 airplane design includes digital electronic engine control systems, which were not envisaged and are not adequately addressed in 14 CFR part 23. The applicable existing regulations do not address electronic control systems since those were not envisioned at the time. Even though the engine control system will be certificated as part of the engine, the installation of an engine with an electronic control system requires evaluation due to the possible effects on or by other airplane systems (e.g., radio interference with other airplane electronic systems, shared engine and airplane power sources). The regulatory requirements were not applicable to sysems certificated as part of the engine (ref. § 23.1309(f)(1)). Also, electronic control systems often require inputs from airplane data and power sources and outputs to other airplane systems. Although the parts of the system that are not certificated with the engine could be evaluated using the criteria of § 23.1309, the integral nature of systems such as these makes it unfeasible to evaluate the airplane portion of the system without including the engine portion of the system. However, § 23.1309(f)(1) again prevents complete evaluation of the installed airplane system since evaluation of the engine system's effects is not required.

Type Certification Basis

Under the provisions of 14 CFR § 21.17, Eclipse Aviation Corporation must show that the Eclipse Model 500 airplane meets the following:

(1) Applicable provisions of 14 CFR part 23, effective December 18, 1964, as amended by Amendments 23–1 through 23–54 (September 14, 2000).

(2) Part 34 of the Federal Aviation Regulations effective September 10, 1990, plus any amendments in effect on the date of type certification.

(3) Part 36 of the Federal Aviation Regulations effective December 1, 1969, as amended by Amendment 36–1 through the amendment in effect on the date of type certification.

(4) Noise Control Act of 1972.

(5) Special conditions that are not relevant to these proposed special conditions, if any;

(6) Exemptions, if any;

(7) Equivalent level of safety findings, if any; and

(8) Special conditions adopted by this rulemaking action.

If the Administrator finds that the applicable airworthiness regulations (i.e., part 23) do not contain adequate or appropriate safety standards for the Eclipse Model 500 airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions, as appropriate, as defined in § 11.19, are issued in accordance with § 11.38 after public notice and become part of the type certification basis in accordance with § 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 § 21.101.

Novel or Unusual Design Features

The Eclipse Model 500 airplane will incorporate the following novel or unusual design features: Digital electronic engine control systems. This notice proposes a special condition for a digital electronic engine control system on the Eclipse Model 500 airplane.

Applicability

As discussed above, these special conditions are applicable to the Eclipse Model 500 airplane. Should Eclipse Aviation Corporation apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well under the provisions of § 21.101.

Conclusion

This action affects only certain novel or unusual design features on one model

of airplanes. 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 11.38 and 11.19.

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for the Eclipse Aviation Corporation Model 500, airplane.

1. Electronic Engine Control System

The installation of the electronic engine control system must comply with the requirements of § 23.1309(a) through (e) at Amendment 23–49. The intent of this requirement is not to re-evaluate the inherent hardware reliability of the control itself, but rather determine the effects, including environmental effects addressed in § 23.1309(e), on the airplane systems and engine control system when installing the control on the airplane. When appropriate, engine certification data may be used when showing compliance with this requirement.

Issued in Kansas City, Missouri on February 21, 2002.

Michael Gallagher,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 02–5811 Filed 3–8–02; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. CE166; Notice No. 23–01–03–SC]

Special Conditions: CAP Aviation, Model CAP 222; Structural Design & Loads Criteria

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This notice proposes special conditions for the CAP Aviation Model No. 222 airplane. This airplane will have a novel or unusual design feature(s) associated with structural design and loads criteria. 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 July 9, 2002.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Regional Counsel, ACE–7, Attention: Rules Docket, Docket No. CE166, 901 Locust, Room 506, Kansas City, Missouri 64106, or delivered in duplicate to the Regional Counsel at the above address. Comments must be marked: Docket No. CE166. 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. Mike Reyer, Federal Aviation Administration, Aircraft Certification Service, Small Airplane Directorate, ACE–111, 901 Locust, Kansas City, Missouri, 816–329–4131, 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 CE166.'' The postcard will be date stamped and returned to the commenter.

Background

On January 28, 2001, CAP Aviation applied for a type certificate for their new Model CAP 222. The CAP 222 is a two-place tandem seat, all carbon fiber composite made (wing and fuselage) low wing with no high lift devices. It is a fixed gear, unpressurized MTOW 1,600 pound airplane with aerobatic capabilities from −10g to +10g and a roll rate of 500 degrees per second. A single 200 horsepower Textron-Lycoming AEIO–360–A1E engine and two-bladed MT propeller, type MTV–12–B–C/C–183–17e, comprise the propulsion system.

Since the airplane is designed for high performance acrobatic maneuvers with a design flight envelope of +10g, special conditions are required to address the expanded flight envelope. Current 14 CFR Part 23 acrobatic category design requires that the flight envelope shall not be less than +6.0g, −3.0g.

Type Certification Basis

Under the provisions of 14 CFR § 21.17, § 21.29, and § 21.183(c), CAP Aviation must show that the CAP Model 222 meets the applicable provisions of part 23, as amended by Amendments 23–1 through 23–53; 14 CFR part 36, effective December 1, 1969, including amendments 36–1 through the amendment effective on the date of type certification. In addition, the certification basis includes exemptions, if any, equivalent level of safety findings, if any, and the special conditions adopted by this rulemaking action.

If the Administrator finds that the applicable airworthiness regulations (i.e., part 23) do not contain adequate or appropriate safety standards for the CAP Model 222 because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions, as appropriate, become part of the type certification basis in accordance with § 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 § 21.101(a)(1).

Novel or Unusual Design Features

The CAP Model 222 will incorporate the following novel or unusual design features: