(b) The adjustments displayed in paragraph (a) of this section apply to acts occurring after the date of publication in the Federal Register.

PART 796—POST-EMPLOYMENT RESTRICTIONS FOR CERTAIN NCUA EXAMINERS

§ 796.5 What are the penalties for violating these special post-employment restrictions?

(a) * * *

(2) Assessed a civil monetary penalty up to the amount specified in § 747.1001 of this chapter.

Privacy: The FAA will post all comments it receives, without change, to http://regulations.gov, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT’s complete Privacy Act Statement can be found in the Federal Register published on April 11, 2000 (65 FR 19477–19478), as well as at http://DocketsInfo.dot.gov.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Cirrus Design Corporation SF50 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 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: The effective date of these special conditions is September 23, 2015.

ADDRESSES: Send comments identified by docket number FAA–2015–3881 using any of the following methods:

- Federal eRegulations Portal: Go to http://www.regulations.gov and follow the online instructions for sending your comments electronically.
- Hand Delivery of Courier: Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m., and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at 202–493–2251.

Privacy: The FAA will post all comments it receives, without change, to http://regulations.gov, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT’s complete Privacy Act Statement can be found in the Federal Register published on April 11, 2000 (65 FR 19477–19478), as well as at http://DocketsInfo.dot.gov.

Docket: Background documents or comments received may be read at http://www.regulations.gov at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m., and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Jeff Pretz, Federal Aviation Administration, Small Airplane Directorate, ACE–111, 901 Locust, Room 301, Kansas City, MO 64106; telephone (816) 329–3239; facsimile (816) 329–4000.

SUPPLEMENTARY INFORMATION: The FAA has determined, in accordance with 5 U.S.C. 553(b)(3)(B) and 553(d)(3), that notice and opportunity for prior public comment hereon are unnecessary because the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance.

The Cirrus Design Corporation SF50 airplane is equipped with a Williams International FJ33–5A turbofan engine, which uses an Electronic Engine Control
System (EEC, also commonly referred to as a FADEC) instead of a traditional mechanical control system. Even though the engine control system will be certified as part of the engine, the installation of an engine with an electronic control system requires evaluation due to critical environmental effects and possible effects on or by other airplane systems. For example, indirect effects of lightning, radio interference with other airplane electronic systems, shared engine and airplane data and power sources.

The regulatory requirements in part 23 for evaluating the installation of complex systems, including electronic systems and critical environmental effects, are contained in §§ 23.1306, Electrical and electronic system-lightning protection; 23.1308, High-intensity Radiated Fields (HIRF) Protection; and 23.1309, Equipment, systems, and installations. However, when § 23.1309 was developed, the use of electronic control systems for engines was not envisioned. The integral nature of these systems makes it necessary to ensure the airplane functions included in the EEC are properly evaluated and that the installation does not degrade the EEC reliability, both of which are approved under part 33. Sections 23.1306(a) and 23.1308(a) are applied to the EEC to ensure it remains equivalent to a mechanical system, which is not generally susceptible to the HIRF and lightning environments.

In some cases, the airplane, which the engine is being installed into, will determine a higher classification than the engine controls are certified for, requiring the EEC systems be analyzed at a higher classification. As of November 2005, EEC special conditions mandated the § 23.1309 classification for loss of EEC control as catastrophic for any airplane. This is not to imply an engine failure is classified as catastrophic, but that the EEC must provide an equivalent reliability to mechanical engine controls. In addition, §§ 23.1141, Powerplant controls: General, paragraph (e) and 25.901, Powerplant—General—Installation, paragraph (b)(2), are applied to provide the fault tolerant design requirements of turbine engine mechanical controls to the EEC and ensure adequate inspection and maintenance interval of the EEC.

Type Certification Basis

Under the provisions of 14 CFR 21.17, Cirrus Design Corporation must show that the SF50 meets the applicable provisions of part 23, as amended by amendments 23–1 through 23–62 thereto.

If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 23) do not contain adequate or appropriate safety standards for the SF50 because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the SF50 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36 and the FAA must issue a finding of regulatory adequacy under § 611 of Public Law 92–374, the “Noise Control Act of 1972.”

The FAA issues special conditions, as defined in § 11.19, under § 11.38 and they become part of the type certification basis under § 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.

Novel or Unusual Design Features

The SF50 will incorporate the following novel or unusual design features:

Electronic engine control system

Discussion

As discussed in the summary section, the SF50 makes use of an electronic engine control system instead of a traditional mechanical control system, which is considered a novel design for this type of airplane. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. Mandating a structured assessment to determine potential installation issues mitigates the concerns that the addition of an electronic engine control may produce failure conditions not previously considered.

Applicability

As discussed above, these special conditions are applicable to the SF50. Should Cirrus Design 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.

Conclusion

This action affects only certain novel or unusual design features on the model SF50 airplanes. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

The substance of these special conditions has previously been subjected to the notice and comment period as identified above, and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. Therefore, notice and opportunity for prior public comment hereon are unnecessary and the FAA finds good cause, in accordance with 5 U.S.C. 553(b)(3)(B) and 553(d)(3), making these special conditions effective upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

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:


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 Cirrus Design Corporation SF50 airplane.

1. Full Authority Digital Engine Control (FADEC) System

a. For electronic engine control system installations, it must be established that no single failure or malfunction or probable combinations of failures of Electronic Engine Control System (EEC) system components will have an effect on the system, as installed in the airplane, that causes the LOTC probability of the system to exceed those allowed in part 33 certification.

b. Electronic engine control system installations must be evaluated for environmental and atmospheric conditions, including lightning. The EEC system lightning and HIRF effects that could result in LOTC must be evaluated in accordance with §§ 23.1306(a) and 23.1308(a).

c. The components of the installation must be constructed, arranged, and installed to ensure their continued safe
operation between normal inspections or overhauls.

d. Functions incorporated into any electronic engine control that make it part of any equipment, systems, or installation whose functions are beyond that of basic engine control, and which may also introduce system failures and malfunctions, are not exempt from § 23.1309 and must be shown to meet part 23 levels of safety as derived from § 23.1309. Part 33 certification data, if applicable, may be used to show compliance with any part 23 requirements. If part 33 data is used to substantiate compliance with part 23 requirements, then the applicant must be able to provide this data for showing or compliance.

Issued in Kansas City, Missouri on September 14, 2015.

Mel Johnson,
Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2015–24156 Filed 9–22–15; 8:45 am]
BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23


Special Conditions: Honda Aircraft Company, Model HA–420 HondaJet,
Lithium-ion Batteries

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Honda Aircraft Company, Model HA–420 airplane. This airplane will have a novel or unusual design feature associated with the installation of lithium-ion (Li-ion) batteries. 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.

DATES: These special conditions are effective September 23, 2015.


SUPPLEMENTARY INFORMATION:

Background

On October 11, 2006, Honda Aircraft Company applied for a type certificate for their new Model HA–420. On October 10, 2013, Honda Aircraft Company requested an extension with an effective application date of October 1, 2013. This extension changed the type certification basis to amendment 23–62.

The HA–420 is a four to five passenger (depending on configuration), two crew, lightweight business jet with a 43,000-foot service ceiling and a maximum takeoff weight of 9963 pounds. The airplane is powered by two GE-Honda Aero Engines (GHAЕ) HF–120 turbofan engines.

The current regulatory requirements for part 23 airplanes do not contain adequate requirements for the application of Li-ion batteries in airborne applications. This type of battery possesses certain failure, operational characteristics, and maintenance requirements that differ significantly from that of the nickel cadmium and lead acid rechargeable batteries currently approved in other normal, utility, acrobatic, and commuter category airplanes. Therefore, the FAA is proposing this special condition to require that (1) all characteristics of the rechargeable lithium batteries and their installation that could affect safe operation of the HA–420 are addressed, and (2) appropriate Instructions for Continued Airworthiness which include maintenance requirements are established to ensure the availability of electrical power from the batteries when needed.

Type Certification Basis

Under the provisions of 14 CFR 21.17, Honda Aircraft Company must show that the HA–420 meets the applicable provisions of part 23, as amended by Amendments 23–1 through 23–62 thereto.

If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 23) do not contain adequate or appropriate safety standards for the HA–420 because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the HA–420 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36, and the FAA must issue a finding of regulatory adequacy under section 611 of Public Law 92–574, the “Noise Control Act of 1972.”

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type-certification basis under § 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 or similar novel or unusual design feature, the special conditions would also apply to the other model under § 21.101.

Novel or Unusual Design Features

The HA–420 will incorporate the following novel or unusual design feature: The installation of Li-ion batteries.

The current regulatory requirements for part 23 airplanes do not contain adequate requirements for the application of Li-ion batteries in airborne applications. This type of battery possesses certain failure, operational characteristics, and maintenance requirements that differ significantly from that of the nickel cadmium and lead acid rechargeable batteries currently approved in other normal, utility, acrobatic, and commuter category airplanes.

Discussion

The applicable parts 21 and 23 airworthiness regulations governing the installation of batteries in general aviation airplanes, including § 23.1353, were derived from Civil Air Regulations (CAR 3) as part of the recodification that established 14 CFR part 23. The battery requirements, which are identified in § 23.1353, were a wording of the CAR requirements that did not add any substantive technical requirements. An increase in incidents involving battery fires and failures that accompanied the increased use of Nickel-Cadmium (Ni-Cad) batteries in aircraft resulted in rulemaking activities on the battery requirements for transport category airplanes. These regulations were incorporated into § 23.1353(f) and (g), which apply only to Ni-Cad battery installations.

The use of Li-ion batteries on the HA–420 airplane has prompted the FAA to review the adequacy of the existing battery regulations with respect to that chemistry. As the result of this review, the FAA has determined that the existing regulations do not adequately address several failure, operational, and maintenance characteristics of Li-ion batteries that could affect safety of the