Frequency	Field strength (volts per meter)	
	Peak	Average
10 kHz–100 kHz	50	50
100 kHz–500 kHz	50	50
500 kHz–2 MHz	50	50
2 MHz–30 MHz	100	100
30 MHz–70 MHz	50	50
70 MHz–100 MHz	50	50
100 MHz–200 MHz	100	100
200 MHz–400 MHz	100	100
400 MHz–700 MHz	700	50
700 MHz–1 GHz	700	100
1 GHz–2 GHz	2000	200
2 GHz–4 GHz	3000	200
4 GHz–6 GHz	3000	200
6 GHz–8 GHz	1000	200
8 GHz–12 GHz	3000	300
12 GHz–18 GHz	2000	200
18 GHz–40 GHz	600	200

The field strengths are expressed in terms of peak root-mean-square (rms) values.

or,

(2) The applicant may demonstrate by a system test and analysis that the electrical and electronic systems that perform critical functions can withstand a minimum threat of 100 volts per meter, electrical field strength, from 10 kHz to 18 GHz. When using this test to show compliance with the HIRF requirements, no credit is given for signal attenuation due to installation.

A preliminary hazard analysis must be performed by the applicant, for approval by the FAA, to identify either electrical or electronic systems that perform critical functions. The term ''critical'' means those functions whose failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane. The systems identified by the hazard analysis that perform critical functions are candidates for the application of HIRF requirements. A system may perform both critical and non-critical functions. Primary electronic flight display systems, and their associated components, perform critical functions such as attitude, altitude, and airspeed indication. The HIRF requirements apply only to critical functions.

Compliance with HIRF requirements may be demonstrated by tests, analysis, models, similarity with existing systems, or any combination of these. Service experience alone is not acceptable since normal flight operations may not include an exposure to the HIRF environment. Reliance on a system with similar design features for redundancy as a means of protection against the effects of external HIRF is generally insufficient since all elements of a redundant system are likely to be exposed to the fields concurrently.

Applicability

As discussed above, these special conditions are applicable to the Piper PA–32R–301T and PA–32–301FT. Should Piper Aircraft, Inc. apply at a later date for a supplemental type certificate for a type design change to modify any other model on the same type certificate to incorporate 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 airplane. 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 been subjected to the notice and comment period in several prior instances 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. For this reason, and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions 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:

Authority: 49 U.S.C. 106(g), 40113 and 44701; 14 CFR 21.16 and 21.101; and 14 CFR 11.38 and 11.19.

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 the Piper PA–32R–301T, Saratoga II TC, and PA–32–301FT, Piper 6X, airplane modified by Piper Aircraft, Inc. to add a G1000 EFIS system.

1. *Protection of Electrical and Electronic Systems from High Intensity Radiated Fields (HIRF).* Each system that performs critical functions must be designed and installed to ensure that the operations, and operational capabilities of these systems to perform critical functions, are not adversely affected when the airplane is exposed to high intensity radiated electromagnetic fields external to the airplane.

2. For the purpose of these special conditions, the following definition applies: *Critical Functions:* Functions whose failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Kansas City, Missouri, on January 12, 2007.

Kim Smith,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7–1018 Filed 1–23–07; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 33

[Docket No. NE127; Special Conditions No. 33–006–SC]

Special Conditions: General Electric Company GEnx Model Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the General Electric Company (GE) GEnx turbofan engine models GEnx–1B54, GEnx–1B58, GEnx–1B64, GEnx–1B67, GEnx–1B70, GEnx–1B70/72, GEnx–1B70/75, GEnx–1B72, and GEnx–1B75. The fan blades of these engines will have novel or unusual design features when compared to the state of technology envisioned in the part 33 airworthiness standards. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These special conditions contain the added safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: *Effective Date:* The effective date of these special conditions is January 12, 2007.

FOR FURTHER INFORMATION CONTACT: Robert McCabe, ANE–111, Rulemaking and Policy Branch, Engine and Propeller Directorate Standards Staff, Aircraft Certification Service, 12 New England

Executive Park, Burlington, Massachusetts 01803–5299; telephone (781) 238–7138; facsimile (781) 238–7199; e-mail *robert.mccabe@faa.gov.*

SUPPLEMENTARY INFORMATION:

Background

On December 13, 2004, the General Electric Company (GE) applied to the FAA for a new type certificate for the GEnx series engine models. On May 24, 2005, GE submitted a revised application for a type certificate that added models and changed the model designation nomenclature. The turbofan engine models to be certified are GEnx–1B54, GEnx–1B58, GEnx–1B64, GEnx–1B67, GEnx–1B70, GEnx–1B70/72, GEnx–1B70/75, GEnx–1B72, and GEnx–1B75. For these GEnx engine models, GE plans to use carbon graphite composite fan blades incorporating metal leading and trailing edges that use geometry, composite structural materials, and manufacturing methods very similar to those used for previously certified GE90–series engine fan blade designs.

In lieu of direct compliance to 14 CFR section (§) 33.94(a)(1) for the GEnx fan blades, the FAA proposed that GE comply with new special conditions that retain the basic requirements of the original SC–33–ANE–08 created for the GE90–76B, –77B, –85B , –90B, –94B model certification program, and then successfully applied to the GE90–110B1, –113B, and –115B model certification program.

These GE90 series engine model fan blades are manufactured using carbon graphite composite material that also incorporates metal leading and trailing edges. These unusual and novel design features result in the fan blades having significant differences in material property characteristics when compared to conventionally designed fan blades using non-composite metallic materials. GE submitted data and analysis during the GE90–76B, –77B, –85B, –90B, –94B model certification program showing the likelihood that a composite fan blade will fail below the inner annulus flow path line is highly improbable. GE, therefore, questioned the appropriateness of the requirement contained in § 33.94(a)(1) to show blade containment after a failure of the blade at the outermost retention feature.

The FAA determined that the requirements of § 33.94(a)(1) are based on metallic blade characteristics and service history and were not appropriate for the unusual design features of the composite fan blade design planned for the GE90–76B, –77B, –85B, –90B, –94B model turbofan engines. The FAA determined that a more realistic blade retention test would be achieved with a fan blade failure at the inner annulus flow path line (the complete airfoil only) instead of the outermost blade retention feature as currently required by § 33.94(a)(1).

The FAA, therefore, issued special conditions SC–33–ANE–08 on February 1, 1995 for the GE90–76B, –77B, –85B, –90B, –94B engine models. These special conditions defined additional safety standards for the carbon graphite composite fan blades that were appropriate for the unusual design features of those fan blades, and that were determined to be necessary to establish a level of safety equivalent to that established by the intent of the airworthiness standards of § 33.94(a)(1). The FAA later determined that these special conditions continued to be appropriate for the amended type certificate applied to the GE90–110B1, –113B, and –115B engine models. The FAA has also concluded that these same special conditions, with some additional enhancements, continue to be appropriate for the GEnx model engines.

Type Certification Basis

Under the provisions of 14 CFR 21.17, GE must show that the GEnx series turbofan engine models meet the requirements of applicable provisions of part 33 in effect on the date of the application for the type certificate. The FAA has determined that the applicable airworthiness regulations in part 33 do not contain adequate or appropriate safety standards for the GEnx series turbofan engine models because of its novel and unusual fan blade design features. Therefore, these special conditions are prescribed under the provisions of 14 CFR 11.19 and 21.16, and will become part of the type certification basis for GEnx engine in accordance with § 21.17(a)(2).

As discussed above, these special conditions apply only to the GEnx series turbofan engine models GEnx–1B54, GEnx–1B58, GEnx–1B64, GEnx–1B67, GEnx–1B70, GEnx–1B70/72, GEnx–1B70/75, GEnx–1B72, and GEnx–1B75. If the type certificate for those models is amended later to include any other models that incorporate the same novel or unusual fan blade design features, these special conditions would apply to the other models under the provisions of § 21.101(a)(1).

Discussion of Novel or Unusual Design Features

The GEnx–1B54, –B58, –1B64, –1B67, –70B, –1B70/72, –1B70/75, –72B and –75B engine models will incorporate fan blades to be manufactured using carbon graphite composite material that incorporates metal leading and trailing edges. The FAA has conducted that these carbon graphite composite fan blades are novel and unusual compared to the metallic fan blade technology envisioned in the part 33 standards and thus warrant these special conditions.

The FAA has also determined that the composite fan blade design and construction presents factors other than the expected location of a blade failure that must be considered. Tests and analyses must account for the effects of in-service deterioration of, manufacturing and materials variations in, and environmental effects on, the composite material. Tests and analyses must also show that a lightning strike on a composite fan blade will not result in a hazardous condition to the aircraft and that the engine will continue to meet the requirements of § 33.75.

Therefore, due to the close similarity of the GEnx models series fan blade design to the previously certified GE90 model series fan blade design, the FAA is issuing similar special conditions as part of the type certification basis for the GEnx engine models in lieu of direct compliance to § 33.94(a)(1). These special conditions define the additional requirements that the Administrator considers necessary to establish a level of safety equivalent to that which would be established by direct compliance to the airworthiness standards of § 33.94(a)(1).

Discussion of Comments

Notice of Proposed Special Conditions, Docket No. NE127; Notice No. 33–06–01–SC, was published in the **Federal Register** on November 17, 2006 (71 FR 66888). We received no comments on the proposed special conditions. After a careful review of the applicable data, the FAA has determined that air safety and the public interest require the adoption of these special conditions as proposed.

Conclusion

This action affects only the carbon fiber composite fan blade design features on the GEnx series turbofan engine models GEnx–1B54, GEnx–1B58, GEnx–1B64, GEnx–1B67, GEnx–1B70, GEnx–1B70/72, GEnx–1B70/75, GEnx–1B72, and GEnx–1B75. It is not a rule of general applicability, and it affects only the General Electric Company which has applied to the FAA for certification of these fan blade design features.

List of Subjects in 14 CFR Part 33

Air transportation, Aircraft, Aviation safety, Safety.

The authority citation for these special conditions continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421, 1423; 49 U.S.C. 106(g); and 14 CFR 11.49 and 21.16.

The Special Conditions

Accordingly, the Federal Aviation Administration (FAA) issues the following special conditions as part of the type certification basis for the GEnx series turbofan engines.

1. In lieu of the fan blade containment test with the fan blade failing at the outermost retention groove as specified in § 33.94(a)(1), complete the following requirements:

(a) Conduct an engine fan blade containment test with the fan blade failing at the inner annulus flow path line.

(b) Substantiate by test and analysis, or other methods acceptable to the Administrator, that a minimum material properties fan disk and fan blade retention system can withstand without failure a centrifugal load equal to two times the maximum load which the retention system could experience within approved engine operating limitations. The fan blade retention system includes the portion of the fan blade from the inner annulus flow path line inward to the blade dovetail, the blade retention components, and the fan disk and fan blade attachment features.

(c) Using a procedure approved by the Administrator, establish an operating limitation that specifies the maximum allowable number of start-stop stress cycles for the fan blade retention system. The life evaluation shall include the combined effects of high cycle and low cycle fatigue. If the operating limitation is less than 100,000 cycles, that limitation must be specified in Chapter 5 of the Engine Manual Airworthiness Limitation Section.

(d) Substantiate that, during the service life of the engine, the total probability of the occurrence of a hazardous engine effect defined in § 33.75 due to an individual blade retention system failure resulting from all possible causes will be extremely improbable, with a cumulative calculated probability of failure of less than 10^{-9} per engine flight hour.

(e) Substantiate by test or analysis that not only will the engine continue to meet the requirements of § 33.75 following a lightning strike on the composite fan blade structure, but that the lightning strike will also not cause damage to the fan blades that would prevent continued safe operation of the affected engine.

(f) Account for the effects of in-service deterioration, manufacturing variations, minimum material properties, and environmental effects during the tests and analyses required by paragraphs (a), (b), (c), (d), and (e) of these special conditions.

(g) Propose fleet leader monitoring and field sampling programs for the GEnx engine fan blades that will monitor the effects of usage on fan blade and retention system integrity. The sampling program should use the experience gained on current GE90 engine model monitoring programs, and must be approved by the FAA prior to certification of the GEnx engine models.

Issued in Burlington, Massachusetts, on January 12, 2007.

Francis A. Favara,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 07–301 Filed 1–23–07; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001–NM–183–AD; Amendment 39–14889; AD 2007–02–02]

RIN 2120–AA64

Airworthiness Directives; McDonnell Douglas Model DC–8–55, DC–8F–54, and DC–8F–55 Airplanes; and Model DC–8–60, DC–8–70, DC–8–60F, and DC–8–70F Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain McDonnell Douglas Model DC–8 airplanes. This AD requires a one-time inspection for previous repairs of the aft fuselage skin panel at the longeron 28 skin splice; repetitive inspections for cracks of the same area; and related investigative and corrective actions. This AD also provides optional actions for extending the repetitive inspection intervals. The actions specified by this AD are intended to detect and correct cracks in the aft fuselage skin at the longeron 28 skin splice, which could lead to loss of structural integrity of the aft fuselage, resulting in rapid decompression of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective February 28, 2007.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 28, 2007.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1–L5A (D800–0024). 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, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California.

FOR FURTHER INFORMATION CONTACT: Jon Mowery, Aerospace Engineer, Airframe Branch, ANM–120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712–4137; telephone (562) 627–5322; fax (562) 627–5210.

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 McDonnell Douglas Model DC–8–55, DC–8F–54, and DC–8F–55 airplanes; and Model DC–8–60, DC–8–70, DC–8–60F, and DC–8–70F series airplanes; was published as a supplemental notice of proposed rulemaking (NPRM) in the **Federal Register** on July 25, 2006 (71 FR 42062). That action proposed to require a one-time inspection for previous repairs of the aft fuselage skin panel at the longeron 28 skin splice; repetitive inspections for cracks of the same area; related investigative and corrective actions; and reporting inspection findings to the manufacturer. That action also proposed to provide optional actions for extending the repetitive inspection intervals.

Comments

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

Request To Lengthen Inspection Threshold for Certain Airplanes

Air Transport Association (ATA), on behalf of one of its members, UPS, does not agree with the inspection threshold of 12 months for airplanes that have accumulated 24,000 total flight cycles or more as of the effective date of the AD, as specified in paragraph (a)(2) of the supplemental NPRM. The commenters note that all U.S.-registered McDonnell