

functions are not adversely affected when the aircraft is exposed to the HIRF environment defined below:

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 Raytheon Model B200, B200C, 300, B300, and B300C. Should Envoy Aerospace apply at a later date for a supplemental type certificate 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 Raytheon Model B200, B200C, 300, B300, and B300C airplanes modified by Envoy

Aerospace to add the Universal Avionics EFI–890R 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 December 5, 2005.

James E. Jackson,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05–24159 Filed 12–16–05; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM337; Special Conditions No. 25–310–SC]

Special Conditions: Raytheon Aircraft Company Model HS.125 Airplanes; High-Intensity Radiated Fields (HIRF)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for a Raytheon Aircraft Company Model HS.125 airplane modified by AeroMech Incorporated. This modified airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. The modification incorporates the installation of Innovative Solutions and Support air data display units (ADDU). These systems perform critical functions. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for the protection of these systems from the effects of high-intensity radiated fields (HIRF). 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 December 9, 2005. Comments must be received on or before January 18, 2006.

ADDRESSES: You must mail two copies of your comments to: Federal Aviation Administration, Transport Airplane Directorate, Attention: Rules Docket (ANM-113), Docket No. NM337, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. You may deliver two copies to the Transport Airplane Directorate at the above address. You must mark your comments: Docket No. NM337. You can inspect comments in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: Greg Dunn, FAA, Airplane and Flight Crew Interface Branch, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2799; facsimile (425) 227-1320.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA has determined that notice and opportunity for prior public comment is impracticable because these procedures would significantly delay certification of the airplane and thus delivery of the affected aircraft. In addition, 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; however, we invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning these special conditions. You may inspect the docket before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 7:30 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive on or before the closing date for

comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions based on the comments we receive.

If you want the FAA to acknowledge receipt of your comments on these special conditions, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

Background

On June 6, 2005, AeroMech Incorporated, 1616 Hewitt Avenue, Suite 312, Everett, Washington 98201, applied for a supplemental type certificate (STC) to modify a Raytheon Aircraft Company Model HS.125 Series 400A airplane. This model is currently approved under Type Certificate No. A3EU. The Raytheon Model HS.125 airplane is a small transport category airplane powered by two turbine engines. It operates with a 2-pilot crew and can seat up to 15 passengers. The modification incorporates the installation of Innovative Solutions and Support air data display units. The avionics/electronics and electrical systems installed in this airplane have the potential to be vulnerable to high-intensity radiated fields (HIRF) external to the airplane.

Type Certification Basis

Under the provisions of 14 CFR 21.101, AeroMech Incorporated must show that Raytheon Aircraft Company Model HS.125 Series 400A airplane, as changed, continues to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A3EU, or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the "original type certification basis." The certification basis for the Raytheon Aircraft Company Model HS.125 Series 400A airplane includes Civil Air Regulations (CAR) 10, British Civil Airworthiness Requirements, and Special Conditions. This certification is equivalent to CAR 4b dated December 1953, Amendment 4b-1 through Amendment 4b-11, exclusive of CAR 4b.350(e), and includes Special Regulations SR.422B. Type Certificate No. A3EU was amended to include HS.125 Series 400A on November 15, 1968. Compliance over and above certification basis requirements has been met with CAR Amendment 4B-12 and Amendment 4B-14. Compliance has been established with the special retroactive

requirements of 14 CFR 25.2 as amended by Amendment 25-1 through Amendment 25-20, 14 CFR 21 at Amendment 21-27, and 14 CFR 36(1)(c)(2).

If the Administrator finds that the applicable airworthiness regulations (i.e., part 25, as amended) do not contain adequate or appropriate safety standards for the Raytheon Model HS.125 Series 400A airplane because of a novel or unusual design feature, special conditions are prescribed under § 21.16.

In addition to the applicable airworthiness regulations and special conditions, Raytheon Aircraft Company Model HS.125 Series 400A airplane 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.

Special conditions, as defined in 14 CFR 11.19, are issued under § 11.38 and become part of the type certification basis under § 21.101.

Special conditions are initially applicable to the model for which they are issued. Should AeroMech Incorporated apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A3EU to incorporate the same or similar novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

Novel or Unusual Design Features

As noted earlier, Raytheon Model HS.125 airplane modified by AeroMech Incorporated will incorporate Innovative Solutions and Support air data display units that will perform critical functions. These systems may be vulnerable to high-intensity radiated fields external to the airplane. The current airworthiness standards of part 25 do not contain adequate or appropriate safety standards for the protection of this equipment from the adverse effects of HIRF. Accordingly, this system is considered to be a novel or unusual design feature.

Discussion

There is no specific regulation that addresses protection requirements for electrical and electronic systems from HIRF. Increased power levels from ground-based radio transmitters and the growing use of sensitive avionics/electronics and electrical systems to command and control airplanes have made it necessary to provide adequate protection.

To ensure that a level of safety is achieved equivalent to that intended by the regulations incorporated by

reference, special conditions are needed for Raytheon Aircraft Company Model HS.125 Series 400A airplane modified by AeroMech Incorporated. These special conditions require that new avionics/electronics and electrical systems that perform critical functions be designed and installed to preclude component damage and interruption of function due to both the direct and indirect effects of HIRF.

High-Intensity Radiated Fields (HIRF)

With the trend toward increased power levels from ground-based transmitters, and the advent of space and satellite communications coupled with electronic command and control of the airplane, the immunity of critical avionics/electronics and electrical systems to HIRF must be established.

It is not possible to precisely define the HIRF to which the airplane will be exposed in service. There is also uncertainty concerning the effectiveness of airframe shielding for HIRF. Furthermore, coupling of electromagnetic energy to cockpit-installed equipment through the cockpit window apertures is undefined. Based on surveys and analysis of existing HIRF emitters, an adequate level of protection exists when compliance with the HIRF protection special condition is shown with either paragraph 1 OR 2 below:

1. A minimum threat of 100 volts rms (root-mean-square) per meter electric field strength from 10 KHz to 18 GHz.

a. The threat must be applied to the system elements and their associated wiring harnesses without the benefit of airframe shielding.

b. Demonstration of this level of protection is established through system tests and analysis.

2. A threat external to the airframe of the field strengths identified in the table below for the frequency ranges indicated. Both peak and average field strength components from the table are to be demonstrated.

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

Frequency	Field strength (volts per meter)	
	Peak	Average
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) over the complete modulation period.

The threat levels identified above are the result of an FAA review of existing studies on the subject of HIRF, in light of the ongoing work of the Electromagnetic Effects Harmonization Working Group of the Aviation Rulemaking Advisory Committee.

Applicability

As discussed above, these special conditions are applicable to a Raytheon Aircraft Company Model HS.125 Series 400A airplane modified by AeroMech Incorporated. Should AeroMech Incorporated apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A3EU to incorporate the same or similar novel or unusual design feature, these special conditions would apply to that model as well under § 21.101.

Conclusion

This action affects only certain novel or unusual design features on a Raytheon Aircraft Company Model HS.125 Series 400A airplane modified by AeroMech Incorporated. 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 procedure in several prior instances and has been derived without substantive change from those previously issued. 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 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the supplemental type certification basis for the Raytheon Aircraft Company Model HS.125 Series 400A airplane modified by AeroMech Incorporated.

1. *Protection from Unwanted Effects of HIRF.* Each electrical and electronic system that performs critical functions must be designed and installed to ensure that the operation and operational capability of these systems to perform critical functions are not adversely affected when the airplane is exposed to high-intensity radiated fields.

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 Renton, Washington, on December 9, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 05–24158 Filed 12–16–05; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2005–20848; Directorate Identifier 2005–NE–02–AD; Amendment 39–14323; AD 2005–20–26]

RIN 2120–AA64

Airworthiness Directives; Aviointeriors S.p.A. (formerly ALVEN), Series 312 Box Mounted Seats; Correction

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; correction.

SUMMARY: This document makes a correction to Airworthiness Directive (AD) 2005–20–26. That AD applies to Aviointeriors S.p.A. (formerly ALVEN), series 312 box mounted seats. That AD published in the **Federal Register** on October 12, 2005 (70 FR 59243). This document corrects the AD number in the Amendatory section. In all other respects, the original document remains the same.

EFFECTIVE DATE: Effective December 19, 2005.