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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM283, Special Conditions No. 25–266–SC]

Special Conditions: Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon ModelC/D/E/F Series 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 Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes modified by Flight Test Associates, Inc. These modified airplanes will have novel and unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. The modification incorporates installation of Ametek Model AM–250 barometric altimeters. 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 provided by the existing airworthiness standards.

DATES: The effective date of these special conditions is June 3, 2004.

Comments must be received on or before August 2, 2004.

ADDRESSES: Comments on these special conditions may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Attn: Rules Docket (ANM–113), Docket No. NM283 1601 Lind Avenue SW., Renton, Washington, 98055–4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. All comments must be marked Docket No. NM283.

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, the FAA invites interested persons to participate in this rulemaking by submitting 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. The docket is available for public inspection 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 August 11, 2003, Flight Test Associates, Inc., Mojave, California, applied to the FAA, Los Angeles Aircraft Certification Office, for a supplemental type certificate (STC) to modify Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes. The Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes are small transport category airplanes powered by two turbine engines, with maximum takeoff weights of up to 29,000 pounds. These airplanes operate with a 2-pilot crew and can seat up to 10 passengers. These models are currently approved under Type Certificate No. A7EU. The proposed modification incorporates installation of Ametek Model AM–250 barometric altimeters. The information this equipment presents is flight critical. The barometric altimeters to be installed on 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, Flight Test Associates must show that the Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes, as changed, continue to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A7EU, 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 regulations incorporated by reference in Type Certificate No. A7EU include Civil Air Regulations (CAR) 4b, as amended by amendments 4b–1 through 4b–12, Special Regulation SR422B, and certain requirements of 14 CFR part 25, Amendment levels 25–1 through 25–56. If the Administrator finds that the applicable airworthiness regulations (*i.e.*, CAR 4b, as amended) do not contain adequate or appropriate safety standards for the modified Dassault Mystere Falcon Model 20–C5/

–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes 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 modified Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes 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 in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.101(b)(2).

Special conditions are initially applicable to the model for which they are issued. Should Flight Test Associates apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A7EU to incorporate the same or similar novel or unusual design feature, these special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

Novel or Unusual Design Features

As noted earlier, the modified Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes will incorporate new barometric altimeters that will perform critical functions. These systems may be vulnerable to HIRF 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 the Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes. 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 digital 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 is shown with either HIRF protection special condition 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
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 of the 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 Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes modified by Flight Test Associates. Should Flight Test Associates apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A7EU to incorporate the same or similar novel or unusual design feature, these 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 the Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes modified by Flight Test Associates. 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 the special conditions for these airplanes 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 record keeping 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 Dassault Mystere Falcon Model 20–C5/–D5/–E5/–F5 and Fanjet Falcon Model C/D/E/F series airplanes modified by Flight Test Associates:

1. *Protection from Unwanted Effects of High-Intensity Radiated Fields (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 June 3, 2004.

Franklin Tiangsing,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04–15036 Filed 7–1–04; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003–NM–105–AD; Amendment 39–13694; AD 2004–13–12]

RIN 2120–AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB–120 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to all EMBRAER Model EMB–120 series airplanes, that requires revising the Airplane Flight Manual to ensure that the propeller synchronizer switch is ''OFF'' after engine start and before takeoff and landing. This action is necessary to prevent a possible loss of airplane control and subsequent injury to the flight crew and passengers. This action is intended to address the identified unsafe condition.

DATES: Effective August 6, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 6, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343—CEP 12.225, Sao Jose dos Campos—SP, Brazil. 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 National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

FOR FURTHER INFORMATION CONTACT: Todd Thompson, Aerospace Engineer, International Branch, ANM–116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055–4056; telephone (425) 227–1175; fax (425) 227–1149.

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 all EMBRAER Model EMB–120 series airplanes was published in the **Federal Register** on April 1, 2004 (69 FR 17095). That action proposed to require revising the Airplane Flight Manual to ensure that the propeller synchronizer switch is ''OFF'' after engine start and before takeoff and landing.

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.

One commenter requests that the FAA modify the Discussion section in the proposed AD to read ''* * * the pilot's control of engine power during critical phases of the flight could be limited below the maximum power. Such limitation could result in a reduction of certified climb gradient and subsequent injury to the flight crew and passengers'' instead of ''* * * the pilot's control of engine power during critical phases of the flight could be impeded. Such an impediment could result in loss of control of the airplane and subsequent injury to the flight crew and passengers.''

We agree with the commenter's request. However, the Discussion section of the proposed AD is not restated in the final rule, so no change to the final rule is needed.

Explanation of Change Made to Final Rule

We have revised paragraph (a)(2) of this final rule to reference Revision 65 of EMBRAER EMB–120 Airplane Flight Manual AFM–120/794; the proposed AD referenced revision 64 as the appropriate service information for the AFM revision. The specific AFM pages referenced in that paragraph were not revised at Revision 65, so they remain marked as Revision 64. However, because the AFM is at Revision 65, this revision is necessary to correctly identify the AFM and to meet the Office of the Federal Register's guidelines for materials incorporated by reference. There is no change to the AFM revision requirement specified in that paragraph.

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 revised.

Cost Impact

The FAA estimates that 217 airplanes of U.S. registry will be affected by this AD, that it will take approximately 1 work hour per airplane to accomplish the required actions, and that the average labor rate is $65 per work hour. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be $14,105, or $65 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. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect 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, it is determined that this final rule does not have federalism implications under Executive Order 13132.

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