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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM214, Special Conditions No. 25–198–SC]

Special Conditions: Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 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 Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes modified by Garrett Aviation Services. These 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 the installation of dual Electronic Primary Flight Display systems and dual Electronic Primary Attitude Source systems that perform critical functions. 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 March 6, 2002. Comments must be received on or before April 17, 2002.

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. NM214 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. NM214. 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: Meghan Gordon, FAA, Standardization Branch, ANM–113, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98055–4056; telephone (425) 227–2138; facsimile (425) 227–1149.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice and opportunity for prior public comment hereon are impracticable because these procedures would significantly delay certification of the airplane and thus delivery of the affected airplanes. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance.

Comments Invited

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 9:00 a.m. and 5:00 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 in light of the comments we receive.

If you want the FAA to acknowledge receipt of your comments on this final action, 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 to you.

Background

On January 10, 2002, Garrett Aviation Services, 1200 North Airport Drive—Capital Airport, Springfield, IL 62707, applied for a supplemental type certificate (STC) to modify Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes approved under Type Certificate No. A7EU. The Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 are small transport category airplanes powered by two turbofan engines, with a maximum takeoff weight of 29,000 pounds. These airplanes operate with a 2-pilot crew and can hold up to 10 passengers. The modification incorporates the installation of a Rockwell Collins ProLine 21 Display System, consisting of dual Electronic Primary Flight Display systems which replace the existing Primary Flight Display systems, and a Rockwell Collins Attitude Heading Reference System, consisting of dual Electronic Primary Attitude Source systems. These systems 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, Garrett Aviation Services must show that the Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 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 certification basis for the modified Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes includes CAR 4b, dated December 1953, through Amendment 4b–12 and SR422B; and 14 CFR part 25, dated

February 1, 1965, through Amendment 25–41, except for special conditions and exceptions noted in Type Certificate Data Sheet (TCDS) A7EU.

If the Administrator finds that the applicable airworthiness regulations (i.e., CAR 4b and 14 CFR part 25, as amended) do not contain adequate or appropriate safety standards for the Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes because of novel or unusual design features, special conditions are prescribed under the provisions of § 21.16.

Special conditions, as defined in § 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 Garrett Aviation Services apply at a later date for design change approval to modify any other model already included on the same type certificate to incorporate the same 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 Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes modified by Garrett Aviation Services will incorporate dual Electronic Primary Flight Display systems and dual Electronic Primary Attitude Source systems that will perform critical functions. The existing 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, these systems are considered to be novel or unusual design features.

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 Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes modified by Garrett Aviation Services. 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, plus 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 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 indicated in the following table 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 Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes modified by Garrett Aviation Services. Should Garrett Aviation Services apply at a later date for design change approval to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, these special conditions would apply to that model as well under the provisions of § 21.101(a)(1).

Conclusion

This action affects only certain design features on Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes modified by Garrett Aviation Services. 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 immediately. 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 type certification basis for Dassault Aviation Fan Jet Falcon, Fan Jet Falcon Series C, D, E, and F, and Mystere-Falcon 20–C5, 20–D5, 20–E5, and 20–F5 airplanes modified by Garrett Aviation Services.

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 March 6, 2002.

Kalene C. Yanamura,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 02–6365 Filed 3–15–02; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 99–NM–21–AD; Amendment 39–12675; AD 2002–05–07]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 737–100, –200, –200C, –300, –400, and –500 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 737–100, –200, –200C, –300, –400, and –500 series airplanes. For certain airplanes, this action requires repetitive inspections for discrepancies of the rear spar attachments and cracks in the upper flange of the inboard track at the rear spar attachment of each outboard flap, and eventual rework of the flap track assembly and rear spar attachments, including replacement of the flap track with a new track, if necessary. For all airplanes, this action requires repetitive inspections for cracks in the upper flange of the inboard flap tracks at the rear spar attachments, and corrective action, if necessary. The actions specified by this AD are intended to find and fix discrepancies of the inboard tracks of the outboard flaps, which could result in loss of the outboard trailing edge flaps and consequent reduced controllability of the airplane. These actions are intended to address the identified unsafe condition.

DATES: Effective April 22, 2002.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of April 22, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124–2207. 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 Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: James Blilie, Aerospace Engineer, Airframe Branch, ANM–120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055–4056; telephone (425) 227–2131; fax (425) 227–1181.

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 Boeing Model 737–100, –200, –200C, –300, –400, and –500 series airplanes was published as a supplemental notice of proposed rulemaking (NPRM) in the **Federal Register** on August 2, 2001 (66 FR 40162). That action proposed to expand the applicability and remove the optional terminating action of the proposed AD. For certain airplanes, that action proposed to require new repetitive inspections for discrepancies of the rear spar attachments and cracks in the upper flange of the inboard track at the rear spar attachment of each outboard flap, and eventual rework of the flap track assembly and rear spar attachments, including replacement of the flap track with a new track, if necessary. For all airplanes, that action proposed to require repetitive inspections for cracks in the upper flange of the inboard flap tracks at the rear spar attachments, and corrective action, if necessary.

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 Clarify Compliance Time

Several commenters note that in paragraphs (a) and (c)(1) of the Supplemental NPRM, the phrase ''whichever occurs later,'' is used when only one compliance time is given. They ask that the compliance time be clarified.

The FAA concurs that clarification is required and, accordingly, has deleted the phrase ''whichever occurs later'' from paragraphs (a) and (c)(1) of this final rule.

Request to Clarify Which Airplanes Are Subject to Paragraph (a) of the Supplemental NPRM

One commenter points out that paragraph (a) of the Supplemental NPRM is applicable to all Model 737 series airplanes with line numbers 1 through 1585, whereas the service bulletin cited is effective only for the Model 737–100, –200, and –200C series airplanes. The commenter requests clarification as to the applicability of paragraph (a) of the AD.

The FAA concurs that clarification is necessary. Our intent was to have paragraph (a) of this AD apply only to the Model 737–100, –200, and –200C series airplanes. Accordingly, we have inserted the phrase ''[for] Model 737–100, –200, and –200C series [airplanes]'' in paragraph (a) of this final rule to specify the correct applicability.

Another commenter suggests that the part of paragraph (a) of the Supplemental NPRM which reads ''* * * and airplanes with [line numbers] L/N 870 through 1585 on which the original flap tracks have been replaced with certain tracks as specified in Boeing Service Bulletin 737–57A1249, Revision 1 * * *'' could be interpreted in two different ways. The commenter requests clarification.

The FAA agrees that the sentence could be misunderstood and, accordingly, has revised the language in paragraph (a) of this final rule to read