



\* The engine and ATTCS failed time interval must be no shorter than the time interval from the point of simultaneous engine and ATTCS failure to a height of 400 feet used to comply with I25.2(b) for ATTCS use during takeoff.

Issued in Renton, Washington, on August 4, 1999.

**Donald L. Riggan,**

*Acting Manager, Transport Airplane Directorate Aircraft Certification Service, ANM-100.*

[FR Doc. 99-20857 Filed 8-11-99; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR part 25

[Docket No. NM160, Notice No. 25-99-07-SC]

#### Special Conditions: Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 Airplanes; High Intensity Radiated Fields (HIRF)

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This notice proposes special conditions for the Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 airplanes as modified by Garrett Aviation Services. The Model 20-C5/-D5/-E5/-F5 airplanes are equipped with a high-technology digital avionics system that performs critical functions.

The applicable type certification regulations do not contain adequate or appropriate safety standards for the protection of this system from the effects of high-intensity radiated fields (HIRF). These special conditions provide the additional safety standards that the Administrator considers necessary to ensure that the critical functions that this system performs are maintained when the airplane is exposed to HIRF.

**DATES:** Comments must be received on or before September 13, 1999.

**ADDRESSES:** Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Attention: Rules Docket (ANM-114), Docket No. NM160, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. Comments must be marked: Docket No. NM160. 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:

Connie Beane, FAA, Transport Airplane Directorate, Aircraft Certification Service, Standardization Branch, ANM-113, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; telephone (425) 227-2796; facsimile (425) 227-1149.

#### SUPPLEMENTARY INFORMATION:

#### Comments Invited

Interested persons are invited to participate in the making of these proposed special conditions by submitting such written data, views, or arguments, as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. The proposals described in this notice may be changed in light of the comments received. All comments received will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Persons wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM160." The postcard will be date stamped and returned to the commenter.

#### Background

On November 8, 1998, Garrett Aviation Services applied for a supplemental type certificate (STC) to modify Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 airplanes listed on Type Certificate A7EU.

The Model 20-C5/-D5/-E5/-F5 series of low wing airplanes are pressurized

airplanes with twin, Garrett TRE731-5AR turbofans that are configured for 8-10 passengers and a crew of 2. The airplane has a maximum takeoff weight of 29,000 pounds, a maximum landing weight of 27,734 pounds, and a range of 1600 nautical miles. The overall length of the Falcon Model 20-C5/-D5/-E5/-F5 airplanes is 56 feet 3 inches, and the wing span is 53 feet, 6 inches.

The modification incorporates the installation of flat panel displays for display of critical flight parameters (altitude, airspeed, and attitude) to the crew. These displays can be susceptible to disruption to both command/response signals as a result of electrical and magnetic interference. This disruption of signals could result in loss of all critical flight displays and annunciations or present misleading information to the pilot.

#### Type Certification Basis

Under the provisions of 14 CFR 21.101, Garrett Aviation Services must show that the Dassault Aviation Falcon Model 20-C5/-D5/-E5/-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 regulations incorporated by reference in Type Certificate No. A7EU are as follows:

The certification basis for the modified Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 airplanes include CAR 4b effective December 1953, through Amendment 4b-12 and SR422B, as amended by type certificate data sheet.

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 Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 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 Model 20-C5/-D5/-E5/-F5 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 appropriate, are issued in accordance with 14 CFR 11.49, as required by §§ 11.28 and 11.29(b), 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 for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

#### Novel or Unusual Design Features

The modified Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 airplanes will incorporate the following new design feature: a new electronic flat panel display system, which was not available at the time of certification of these airplanes, that performs critical functions. This system may be vulnerable to HIRF external to the airplane.

#### 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 electrical and electronic 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 Falcon Model 20-C5/-D5/-E5/-F5 airplanes, which require that new electrical and electronic systems, such as the flat panel displays for display of critical flight parameters (altitude, airspeed, and attitude) to the crew, 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 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 per meter peak 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 following field strengths for the frequency ranges indicated.

Field Strength (volts per meter)	Frequency	
	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.

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. In general, these standards are less critical than the threat level that was previously used as the basis for some earlier special conditions.

#### Applicability

As discussed above, these special conditions are applicable to Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 airplanes modified by Garrett Aviation Services. Should Garrett Aviation Services apply at a later date for a supplemental type certificate 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 novel or unusual design features on Dassault Aviation Falcon Model 20-C5/-D5/-E5/-F5 airplanes modified by Garrett Aviation Services. It is not a rule of general applicability, and it affects only the applicant who applied to the FAA for approval of these features on the airplane.

## 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 Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for Dassault Aviation Falcon Model 20-C5/-D5/-E5/-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.

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 July 29, 1999.

**Donald L. Riggin,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.*

[FR Doc. 99-20859 Filed 8-11-99; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 98-NM-321-AD]

RIN 2120-AA64

#### Airworthiness Directives; Bombardier Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 Series Airplanes

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes the superseding of an existing airworthiness directive (AD), applicable to certain Bombardier Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 series airplanes, that currently requires a one-time inspection to detect chafing of electrical wires in the cable trough below the cabin floor; repair, if necessary; installation of additional tie-mounts and tie-wraps; and application of sealant to rivet heads. This action would require the accomplishment of these same actions on additional airplanes. This proposal is prompted by issuance of mandatory continuing airworthiness information by a foreign civil airworthiness authority. The actions specified by the proposed AD are intended to prevent chafing of electrical wires, which could result in an uncommanded shutdown of an engine during flight.

**DATES:** Comments must be received by September 13, 1999.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 98-NM-321-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Bombardier, Inc., Bombardier Regional Aircraft Division, Garratt Boulevard, Downsview, Ontario M3K 1Y5, Canada. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Engine and Propeller Directorate, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York.

## FOR FURTHER INFORMATION CONTACT:

Peter Cuneo, Senior Aerospace Engineer, Systems and Flight Test Branch, ANE-172, FAA, Engine and Propeller Directorate, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York 11581; telephone (516) 256-7506; fax (516) 568-2716.

## SUPPLEMENTARY INFORMATION:

### Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 98-NM-321-AD." The postcard will be date stamped and returned to the commenter.

### Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 98-NM-321-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

### Discussion

On September 14, 1998, the FAA issued AD 98-20-14, amendment 39-10781 (63 FR 50501, September 22, 1998), applicable to certain Bombardier Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 series airplanes, to require a one-time inspection to detect chafing of electrical wires in the cable trough below the cabin floor; repair, if necessary; installation of additional tie-mounts and tie-wraps; and application of sealant to