

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 the Model Gulfstream 200 (Galaxy) airplanes. Should Gulfstream Aerospace Corporation apply at a later date for a change to the type certificate to include another model incorporating the same 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 Model Gulfstream 200 (Galaxy) airplanes modified by Gulfstream Aerospace Corporation. 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 airplanes.

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 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 Model Gulfstream 200 (Galaxy) airplanes modified by Gulfstream Aerospace Corporation.

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. 04-13308 Filed 6-10-04; 8:45 am]

**BILLING CODE 4910-13-P**

#### DEPARTMENT OF TRANSPORTATION

#### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM284; Special Conditions No. 25-268-SC]

#### Special Conditions: Sabreliner Corporation Model NA-265-65; 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 Sabreliner Corporation Model NA-265-65 airplanes modified by Garrett Aviation Services. These modified airplanes 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 two Honeywell N1 Digital Electronic Engine Controls (DEEC) that 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 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 July 14, 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. NM284, 1601 Lind Avenue, SW., Renton, Washington, 98055-4056; or delivered in duplicate to the Transport Directorate at the above address. All comments must be marked: Docket No. NM284. 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:** 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) 227-1149.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA has determined that notice and opportunity for prior public comment are impracticable, because these procedures would significantly delay certification of the airplane and, thus, delivery of the affected airplanes. 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 finds, therefore, 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 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 thru 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 proposal, 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 December 4, 2003, Garrett Aviation Services, 1200 North Airport Drive, Capital Airport Springfield, IL 62707, applied for a Supplemental Type Certificate (STC) to modify Sabreliner Corporation Model NA-265-65 airplanes approved under Type Certificate No. A2WE. The Sabreliner Corporation model NA-265-65 is a transport category airplane, powered by two AiResearch Mfg. Co. TFE731-3-1D turbofans. The airplane operates with a 2-pilot crew and can hold up to 10 passengers. Its maximum takeoff weight is 24,000 pounds.

The modification incorporates the installation of Honeywell N1 Digital Electronic Engine Controls (DEEC). The DEEC replaces the existing Analog Electronic Engine Control (EEC) and provides additional functional capability in the system. The digital avionics/electronics and electrical systems to be installed under this project are 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 Sabreliner Corporation model NA-265-65 airplanes, as changed, continue to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A2WE 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 Sabreliner Corporation Model NA-265-65 airplanes include 14 CFR part 25, dated February 1, 1964, as amended by Amendment 25-1 through 25-20, except for special conditions and exceptions noted in Type Certificate Data Sheet (TDCS) A2WE.

If the Administrator finds that the applicable airworthiness regulations

(that is, 14 CFR part 25, as amended) do not contain adequate or appropriate safety standards for the Sabreliner Corporation Model NA-265-65 airplanes because of novel or unusual design features, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Sabreliner Corporation model NA-265-65 airplanes must comply with the noise certification requirement of part 36, including Amendment 36-1.

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 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 also apply to the other model under the provisions of 14 CFR 21.101(a)(1).

**Novel or Unusual Design Features**

The Sabreliner Corporation model NA-265-65 airplanes modified by Garrett Aviation Services will incorporate Honeywell N1 Digital Electronic Engine Controls (DEEC) which will perform critical functions. These systems may be vulnerable to high-intensity radiated fields (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 effect 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 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 that is equivalent to that intended by the regulations incorporated by reference; special conditions are needed for Sabreliner Corporation model NA-265-65 airplanes modified by Garrett Aviation Services. These special conditions require that new electrical and

electronic 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 electrical and electronic 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 following field strengths 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

Frequency	Field Strength (volts per meter)	
	Peak	Average
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 Sabreliner Corporation Model NA–265–65 airplanes modified by Garret 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 novel or unusual design features on the Sabreliner Corporation Model NA–265–65 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 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. 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.

■ 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 Sabreliner Corporation Model NA–265–65 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 June 3, 2004.

**Franklin Tiangsing,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

[Docket No. 2003–NE–48–AD; Amendment 39–13669; AD 2004–12–10]

**RIN 2120–AA64**

**Airworthiness Directives; Hamilton Sundstrand Corporation (Formerly Hamilton Standard Division) Model 568F Propellers**

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain serial-numbered propeller blades installed in Hamilton Sundstrand Corporation (formerly Hamilton Standard Division) 568F propellers. This AD requires replacement of propeller blades, part numbers (P/Ns) R815505–3 and R815505–4 that have a serial number (SN) of FR1699 to FR20021010, with serviceable blades. This AD results from reports of these composite propeller blades found at inspection, with random areas of