

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the International Branch, ANM-116.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Note 3: The subject of this AD is addressed in German airworthiness directive 96-320, dated November 7, 1996.

Issued in Renton, Washington, on November 20, 1997.

Stewart R. Miller,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 97-31157 Filed 11-26-97; 8:45 am]

BILLING CODE 4910-13-U

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97-NM-231-AD]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica, S.A. (EMBRAER), Model

EMB-120 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain EMBRAER Model EMB-120 series airplanes. This proposal would require deactivation of certain circuit breakers, and a revision to the Airplane Flight Manual (AFM) to provide operational procedures to prevent loss of electrical power following an engine flameout. This proposal also would require modifications of the electrical system, which would terminate the requirement for the AFM revision and allow reactivation of the circuit breakers. This proposal is prompted by the issuance of mandatory continued airworthiness information by a foreign civil airworthiness authority. The actions specified by the proposed AD are intended to prevent generator overload conditions that could result in loss of electrical power and failure of certain flight and landing control systems, and to prevent power interruption to the attitude heading reference system (AHRS) that could

result in the display of erroneous heading information.

DATES: Comments must be received by December 29, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 97-NM-231-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Empresa Brasileira de Aeronautica S/A, Sao Jose dos Campos, Brazil. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Small Airplane Directorate, Atlanta Aircraft Certification Office, One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia.

FOR FURTHER INFORMATION CONTACT: John W. McGraw, Aerospace Engineer, Systems and Flight Test Branch, ACE-116A, FAA, Atlanta Aircraft Certification Office, One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia 30349; telephone (770) 703-6098; fax (770) 703-6097.

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 97-NM-231-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-103, Attention: Rules Docket No. 97-NM-231-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

The Departamento de Aviacao Civil (DAC), which is the airworthiness authority for Brazil, notified the FAA that an unsafe condition may exist on certain EMBRAER Model EMB-120 series airplanes. The DAC advises that it received a report of one instance of substantial electrical power loss after flameout of the number 1 engine. The power loss was caused by activation of the system overload protection due to excessive loads on the remaining number 2 engine generator, which led to loss of certain flight and landing control systems. The DAC also advises that, due to power interruption for a few milliseconds to the attitude heading reference system (AHRS), erroneous heading information in both electronic horizontal situation indicators (EHSI) may be provided, without warning to the pilots, during an electrical emergency or when the electrical emergency switch is set to the "EMERGENCY" position. This condition, if not corrected, could result in generator overload conditions that could result in loss of electrical power and failure of certain flight and landing control systems, and power interruption to the AHRS that could result in display of erroneous heading information.

Explanation of Relevant Service Information

EMBRAER has issued Service Bulletin 120-24-0008, Change 04, dated October 3, 1995, which describes procedures for modification of the electrical system.

This modification involves revising the electrical connections and wiring in the relay boxes and circuit breaker panels.

EMBRAER has also issued Service Bulletin 120-24-0051, Change 04, dated March 8, 1995, which also describes procedures for modification of the electrical system. This modification involves electrical load redistribution and introduction of a contactor to connect a direct current (DC) bus to the emergency bus.

Accomplishment of the actions specified in these service bulletins is

intended to adequately address the identified unsafe condition.

The DAC classified these service bulletins as mandatory and issued Brazilian airworthiness directives (DAE) 93-24-01, dated December 31, 1993; 94-03-01R1, dated December 10, 1994, and 93-12-01R1, dated December 12, 1994, in order to assure the continued airworthiness of these airplanes in Brazil.

FAA's Conclusions

This airplane model is manufactured in Brazil and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the DAC has kept the FAA informed of the situation described above. The FAA has examined the findings of the DAC, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design registered in the United States, the proposed AD would require accomplishment of the actions specified in the service bulletins described previously.

The proposed AD also would require a revision to the FAA-approved Airplane Flight Manual (AFM) to provide operational procedures in the event of loss of electrical power following an engine flameout.

Differences Between the Proposal and Related Brazilian AD

This proposed AD differs from the parallel Brazilian airworthiness directives in the following four respects:

1. It would not require (as DAE 93-24-01 and DAE 93-12-01R1 require) that the electrical emergency switch be set to the "EMERGENCY" position prior to takeoff for operations without auxiliary power units (APU); rather, it would require electrical loads to be reduced to below 400 amps. The FAA has determined that reduction of loads to below 400 amps prevents the unsafe generator overload condition.

2. It would require that the APU be operational for all flights into known or forecast icing conditions and during takeoff and landing. DAE 93-12-01R1 makes no limitation with respect to such icing conditions. The FAA has

determined that the APU must be operational for flights into known or forecast icing conditions to ensure adequate electrical power for systems that are necessary for operation in such conditions.

3. It would extend the proposed compliance time for accomplishment of the modifications beyond that specified by DAE 93-12-01R1 and DAE 94-03-01R1. The FAA has determined that the compliance time specified in this proposed AD would allow the modifications to be accomplished during regularly scheduled maintenance.

4. It would not require the accomplishment of PART C of DAE 94-03-01R1, which requires revision of Section 4 ("Normal Procedures") of the AFM. The FAA has determined that Part C has been incorporated by a previously approved change to the AFM and need not be mandated.

Cost Impact

The FAA estimates that 227 airplanes of U.S. registry would be affected by this proposed AD.

It would take approximately 1 work hour per airplane to accomplish the proposed AFM revisions, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the AFM revisions proposed by this AD on U.S. operators is estimated to be \$13,620, or \$60 per airplane.

It would take approximately 90 work hours per airplane to accomplish the proposed modifications at an average labor rate of \$60 per work hour.

Required parts would cost approximately \$4,150 per airplane. Based on these figures, the cost impact of the modifications proposed by this AD on U.S. operators is estimated to be \$2,167,850, or \$9,550 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. However, the FAA has been advised that 43 U.S.-registered airplanes are in compliance in accordance with the requirements of this proposed AD. Therefore, the future economic cost impact of this rule on U.S. operators is now \$11,040 for accomplishment of the AFM revisions, and \$1,757,200 for accomplishment of the modifications.

Regulatory Impact

The regulations proposed herein would not have substantial direct effects 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, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

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

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

Empresa Brasileira de Aeronautica, S.A. (EMBRAER): Docket 97-NM-231-AD.

Applicability: Model EMB-120, EMB-120RT, and EMB-120ER series airplanes; up to and including serial number 120291; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not

been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent generator overload conditions that could result in loss of electrical power and failure of certain flight and landing control systems, and to prevent power interruption to the attitude heading reference system (AHRS) that could result in the display of erroneous heading information, accomplish the following:

(a) For airplanes not equipped with an auxiliary power unit (APU); except serial numbers 120004, 120006 through 120024 inclusive, 120026 through 120030 inclusive, 120033 through 120035 inclusive, 120037, and 120040; on which Part I, II, or III of EMBRAER Service Bulletin 120-24-0008, Change 03, dated August 19, 1994, or Change 04, dated October 3, 1995, has not been accomplished: Within 3 days after the effective date of this AD, accomplish paragraphs (a)(1), (a)(2), and (a)(3) of this AD.

(1) Trip (pull open) circuit breakers (CB) 534 (auxiliary generator 2 bus control) and CB 535 (auxiliary generator 1 bus control) located in the right-hand direct current (DC) relay box and left-hand DC relay box, respectively.

(2) Install circuit breaker collars to prevent the circuit breakers from closing.

(3) Install, near CB 534 and CB 535, a placard or tag with the following wording: "Do not close CB 534 or CB 535."

(b) For all airplanes: Within 30 days after the effective date of this AD, accomplish paragraphs (b)(1), (b)(2), and (b)(3) of this AD.

(1) Revise the Abnormal Procedures section of the FAA-approved Airplane Gen Flight Manual (AFM) to include the following. This may be accomplished by inserting a copy of this AD into the AFM.

"Section III—Abnormal Procedures:

Engine Failure

One Engine Inoperative Approach and Landing

If auxiliary power unit (APU) is not available

Electrical Load—Reduce to Below 400 Amps

At least the following systems should be turned off: windshield heating, propeller de-ice, gasper fans, recirculation fans, logotype lights, and taxi lights.

Caution

Should an unexpected electrical power loss occur during a rejected takeoff or landing run, remember:

—Emergency brake will be available
—Below 45 knots (KT), turn anti-skid off to recover one normal brake pair (inboard or outboard).

Electrical Failure

Short Circuit in the Relay Box Direct Current (DC) Bus 1

—Gen 1 off Bus, Bus 1 off, Emerg Bus off, Central Bus off, Batt off Bus and inverter 2 INOP lights illuminated on the electrical panel.

Note: In some cases, the Central Bus off light may not illuminate.

—ELEC light illuminated on the multiple alarm panel.

—CAUTION light flashing.

Caution: Do not try to Reset the Electrical System.

Electrical Emergency Switch—Emerg Altitude—At or Below 25,000 FT

Airplane is limited to 25,000 ft since the left engine bleed is closed due to loss of the electrical power.

The engines or APU airstart and electrical crossfeed are not possible.

The equipment connected to the relay box DC BUS 1, DC BUS 1, radio master DC buses 1B and 1C are out. Land as soon as practical.

Note:

• For airplanes Pre-Mod SB 120-24-0008, the AHRS 1 and the equipment connected to the radio master DC BUS 1A are out too.

• For airplanes Post-Mod SB 120-33-0033 or S/N 120.273 and on:

—The emergency lights will be automatically turned on when the electrical system is in emergency operating mode.

—The emergency lights must be turned off, in order to save the emergency light batteries.

—The emergency lights must be turned on during approach or when necessary."

(2) Revise the Normal Procedures section of the FAA-approved AFM to include the following. This may be accomplished by inserting a copy of this AD into the AFM.

"Section IV—Normal Procedures: Before Takeoff

If APU is available:

APU GeneratorON

Takeoff must be carried out with APU generator connected to the central DC bus, thus providing another source to avoid overload should one engine flame out.

If APU is not available:

Electrical Load.....Reduce to Below 400 Amps

At least the following systems should be turned off: windshield heating, propeller de-ice, gasper fans, recirculation fans, logotype lights, and taxi lights.

After Takeoff

If APU is available:

APUAs Required

If APU is not available:

Electrical load—RESTORE
Windshield heating—AS REQUIRED
Emergency lights switch—OFF, then ARM

Approach

If APU is available:

APU GeneratorON

Approach and landing must be carried out with APU generator connected to the central DC bus.

Before Landing

If APU is not available:

Electrical Load.....Reduce to Below 400 Amps

At least the following systems should be turned off: windshield heating, propeller de-ice, gasper fans, recirculation fans, logotype lights, and taxi lights.

Caution:

Do not set electrical emergency switch to emergency position during approach or landing."

(3) Revise the Limitations section (Section II) of the FAA-approved AFM to include the following. This may be accomplished by inserting a copy of this AD into the AFM.

"Both starter/generators must operate normally prior to flight. The APU generator must operate normally prior to flight in known or forecast icing conditions. [Note: This supersedes any relief provided by the Master Minimum Equipment List (M MEL).]"

(c) Within 12 months after the effective date of this AD, accomplish paragraph (c)(1) and (c)(2) of this AD, as applicable.

(1) For all airplanes except serial numbers 120004, 120006 through 120024 inclusive, 120026 through 120030 inclusive, 120033 through 120035 inclusive, 120037, and 120040; on which Part I, II, or III of EMBRAER Service Bulletin 120-24-0008, Change 03, dated August 19, 1994, or Change 04, dated October 3, 1995; has not been accomplished: Modify the electrical system in accordance with Part IV of EMBRAER Service Bulletin 120-24-0008, Change 04, dated October 3, 1995. After this modification is accomplished, the modification required by paragraph (a) of this AD may be removed and the affected circuit breakers reactivated.

(2) For all airplanes: Modify the electrical system in accordance with EMBRAER Service Bulletin 120-24-0051, Change 04, dated March 8, 1995. After this modification is accomplished, the AFM revisions required by paragraph (b) of this AD may be removed from the AFM.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office (ACO), FAA, Small Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Atlanta ACO.

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Note 3: The subject of this AD is addressed in Brazilian airworthiness directives 93-24-01, dated December 31, 1993; 94-03-01R1, dated December 10, 1994; and 93-12-01R1, dated December 12, 1994.

Issued in Renton, Washington, on November 20, 1997.

Stewart R. Miller,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 97-31156 Filed 11-26-97; 8:45 am]

BILLING CODE 4910-13-U