

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 39**

[Docket No. 2003–NM–104–AD]

RIN 2120–AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB–135 and –145 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 all Model EMB–135 and –145 series airplanes, that currently requires repetitive inspections of the engine thrust reverser stow/transit switches, and corrective action, if necessary. This action would continue to require the existing requirements and would identify the installation of certain new transit switches, which would constitute terminating action for the repetitive inspections. This action would also reduce the applicability. The actions specified by the proposed AD are intended to prevent erroneous signals in the Engine Indicating and Crew Alerting System (EICAS) caused by internal corrosion of the thrust reverser stow/transit switches, which could result in uncommanded loss of engine power in flight, or unnecessary aborted takeoffs on the ground. This action is intended to address the identified unsafe condition.

DATES: Comments must be received by April 5, 2004.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–114, Attention: Rules Docket No. 2003–NM–104–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. Comments may be submitted via fax to (425) 227–1232. Comments may also be sent via the Internet using the following address: *9-anm-nprmcomment@faa.gov*. Comments sent via fax or the Internet must contain “Docket No. 2003–NM–104–AD” in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in the proposed rule 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 FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

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:**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 action may be changed in light of the comments received.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the proposed AD is being requested.
- Include justification (*e.g.*, reasons or data) for each request.

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 action must submit a self-addressed, stamped postcard on which the following statement is made: “Comments to Docket Number 2003–NM–104–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. 2003–NM–104–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056.

Discussion

On August 13, 2001, the FAA issued AD 2001–17–03, amendment 39–12394 (66 FR 43766, August 21, 2001), applicable to all Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB–135 and –145 series airplanes, to require repetitive inspections of the engine thrust reverser stow/transit switches, and corrective action, if necessary. That action was prompted by cases of internal corrosion found on the stow/transit switches installed in the engine thrust reversers of EMBRAER Model EMB–145 series airplanes. Erroneous messages of “ENG () REV DISAGREE” or “ENG () REV FAIL” were displayed in the Engine Indicating and Crew Alerting System (EICAS) because of this corrosion. In one case, a transit switch severely contaminated by corrosion resulted in an uncommanded engine rollback to idle in flight. Several cases of aborted takeoffs were also reported due to “ENG () REV DISAGREE” messages during takeoff. The requirements of that AD are intended to prevent erroneous signals in the EICAS caused by internal corrosion of the thrust reverser stow/transit switches, which could result in uncommanded loss of engine power in flight, or unnecessary aborted takeoffs on the ground.

Actions Since Issuance of Previous Rule

The preamble to AD 2001–17–03 explains that we considered the requirements “interim action” and were considering further rulemaking. We now have determined that further rulemaking is indeed necessary, and this proposed AD follows from that determination.

Explanation of Relevant Service Information

Empresa Brasileira de Aeronautica S.A. (EMBRAER) has issued EMBRAER Service Bulletin 145LEG–78–0006, Revision 01, dated January 31, 2003; and EMBRAER Service Bulletin 145–78–0035, Revision 02, dated January 31, 2003; which describe procedures for replacing certain transit switches with new transit switches having new part numbers.

The Departamento de Aviação Civil (DAC), which is the airworthiness authority for Brazil, approved and recommended these service bulletins

and issued Brazilian Airworthiness Directive 2001-05-03R3, dated April 22, 2003, to ensure the continued airworthiness of these airplanes in Brazil.

FAA's Conclusions

These airplane models are manufactured in Brazil and are 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 us informed of the situation described above. We have 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 supersede AD 2001-17-03 to continue to require repetitive inspections of the engine thrust reverser stow/transit switches, and corrective action, if necessary. The proposed AD also would require installation of new transit switches, which would constitute terminating action for the repetitive inspections required by AD 2001-17-03. The actions would be required to be accomplished in accordance with the service bulletins described previously, except as discussed below.

Differences Between the Proposed Rule and the Brazilian AD

This proposed AD would apply to Model EMB-135BJ series airplanes, as listed in EMBRAER Service Bulletin 145LEG-78-0006, Revision 01, dated January 31, 2003; and Model EMB-135 and -145 series airplanes as listed in EMBRAER Service Bulletin 145-78-0035, Revision 02, dated January 31, 2003; certificated in any category. The Brazilian AD applies to "all EMBRAER EMB-145 and EMB-135 aircraft models in operation." We find that a reference to the applicability in the service bulletins is more specific regarding which airplane serial numbers are affected by this proposed AD.

This proposed AD would require installing new transit switches, which would terminate the repetitive inspections. The Brazilian airworthiness directive provides the terminating action as an option. We can better

ensure long-term continued operational safety by design changes to remove the source of the problem, rather than by repetitive inspections. Long-term inspections may not provide the degree of safety necessary for the transport airplane fleet. This determination, along with a better understanding of the human factors associated with numerous continual inspections, has led us to consider placing less emphasis on inspections and more emphasis on design improvements. The proposed installation requirement is consistent with these conditions.

Explanation of Change to Applicability

While AD 2001-17-03 applied to all EMBRAER Model EMB-135 and -145 series airplanes, this proposed AD would apply only to airplanes of certain serial numbers as specified in the EMBRAER service bulletins. The airplane serial numbers that are eliminated from the applicability of this proposed AD have an equivalent modification that is factory-incorporated.

Cost Impact

There are approximately 365 airplanes of U.S. registry that would be affected by this proposed AD.

The inspections that are currently required by AD 2001-17-03 take approximately 1 work hour per airplane to accomplish, at an average labor rate of \$65 per work hour. Based on these figures, the cost impact of the currently required actions on U.S. operators is estimated to be \$23,725, or \$65 per airplane, per inspection cycle.

The new actions that are proposed in this AD action would take approximately 2 work hours per airplane to accomplish, at an average labor rate of \$65 per work hour. Required parts would cost approximately \$194 per airplane. Based on these figures, the cost impact of the proposed requirements of this AD on U.S. operators is estimated to be \$118,260, or \$324 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the current or proposed 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 proposed herein would 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 proposal would not have federalism implications under Executive Order 13132.

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 removing amendment 39-12394 (66 FR 43766, August 21, 2001), and by adding a new airworthiness directive (AD), to read as follows:

Empresa Brasileira De Aeronautica S.A. (EMBRAER): Docket 2003-NM-104-AD. Supersedes AD 2001-17-03, Amendment 39-12394.

Applicability: Model EMB-135BJ series airplanes, as listed in EMBRAER Service Bulletin 145LEG-78-0006, Revision 01, dated January 31, 2003; and Model EMB-135 and -145 series airplanes, as listed in EMBRAER Service Bulletin 145-78-0035, Revision 02, dated January 31, 2003; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent erroneous signals in the Engine Indicating and Crew Alerting System (EICAS) caused by internal corrosion of the thrust reverser stow/transit switches, which could result in uncommanded loss of engine power in flight, or unnecessary aborted takeoffs on the ground, accomplish the following:

Restatement of the Requirements of AD 2001-17-03

Initial and Repetitive Inspections, and Corrective Action, if Necessary

(a) For Model EMB-135 and -145 series airplanes: Prior to the accumulation of 2,000 total flight hours, or within 400 flight hours after September 5, 2001 (the effective date of AD 2001-17-03, amendment 39-12394), whichever occurs later, perform the inspection required by paragraph (b) of this AD and repeat the inspection at intervals not to exceed 1,200 flight hours.

(b) For Model EMB-135 and -145 series airplanes: Inspect each of the six stow/transit switches on the #1 and #2 engine thrust reversers by conducting a megohmmeter test to measure insulation resistance according to the Accomplishment Instructions of EMBRAER Service Bulletin 145-78-0029, dated February 2, 2001. If insulation resistance measures 100 megohms or less, before further flight, replace the switch with a new switch in accordance with the service bulletin.

Spare

(c) For Model EMB-135 and -145 series airplanes: As of September 5, 2001, no person shall install, on any airplane, a stow/transit switch part number 83-990-137 or 83-990-152 unless it has been inspected in accordance with this AD.

New Actions Required by This AD

Service Bulletin Reference

(d) The term "service bulletin," as used in the remainder of this AD, means the Accomplishment Instructions of the following service bulletins, as applicable:

(1) For Model EMB-135BJ series airplanes: EMBRAER Service Bulletin 145LEG-78-0006, Revision 01, dated January 31, 2003; and

(2) For Model EMB-135 and -145 series airplanes: EMBRAER Service Bulletin 145-78-0035, Revision 02, dated January 31, 2003.

Terminating Action

(e) Install new transit switches having part number 83-990-168, on both engines of the airplane, at the time indicated in paragraph (e)(1) or (e)(2), as applicable, in accordance with the applicable service bulletin. Accomplishment of the new part installation constitutes terminating action for the inspections required by paragraph (a) of this AD.

(1) For airplanes that have accomplished the inspection required by paragraph (a) of this AD: Within 1,200 flight hours from the completion of the last inspection required by paragraph (a) of this AD that was performed before the effective date of this AD, or within 400 flight hours after the effective date of this AD, whichever occurs later.

(2) For airplanes that have not accomplished any inspection required by paragraph (a) of this AD: Prior to the accumulation of 2,000 total flight hours, or within 400 hours after the effective date of this AD, whichever occurs later.

Actions Accomplished Per Previous Issue of Service Bulletin

(f) Installation of new transit switches having part number 83-990-168 on both engines of the airplane accomplished before the effective date of this AD, in accordance with EMBRAER Service Bulletin 145-78-0035, dated October 4, 2002; EMBRAER Service Bulletin 145-78-0035, Revision 01, dated December 11, 2002; or EMBRAER Service Bulletin 145LEG-78-0006, dated January 13, 2003; is considered acceptable for compliance with the terminating action required by paragraph (e) of this AD.

Alternative Methods of Compliance

(g) In accordance with 14 CFR 39.19, the Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate, is authorized to approve alternative methods of compliance for this AD.

Note 1: The subject of this AD is addressed in Brazilian airworthiness directive 2001-05-03R3, dated April 22, 2003.

Issued in Renton, Washington, on February 23, 2004.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-4930 Filed 3-4-04; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-218-AD]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-135BJ and EMB-145XR 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-135BJ and EMB-145XR series airplanes. This proposal would require repetitive inspections for cracking in the firewall of the auxiliary power unit (APU), and repair of the firewall if necessary. This proposal would also provide an optional terminating action for the repetitive inspections. This action is necessary to detect and correct cracking in the APU

firewall, which could result in reduced structural integrity of the firewall, and a consequent uncontained APU fire that could spread to the airplane structure. This action is intended to address the identified unsafe condition.

DATES: Comments must be received by April 5, 2004.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-218-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. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-nprmcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2003-NM-218-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in the proposed rule may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), PO Box 343-CEP 12.225, Sao Jose dos Campos-SP, Brazil. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

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