

(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 external to the airplane.

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.*

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 98-NM-233-AD; Amendment 39-11253; AD 99-17-04]

RIN 2120-AA64

#### **Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-120 Series Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain EMBRAER Model EMB-120 series airplanes, that requires replacement of the fairlead support assemblies of the aileron control cable located in the nacelle outboard fittings with new, improved assemblies; and replacement of certain attachment screws with new screws. This amendment also provides an option for performing repetitive inspections until accomplishment of the replacement. This amendment is prompted by reports of aileron cable wear due to chafing found between the aileron control cables and nylon grommets. The actions specified by this AD are intended to prevent such chafing, which could result in failure of the aileron cables, and consequent reduced controllability of the airplane.

**DATES:** Effective September 22, 1999.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 22, 1999.

**ADDRESSES:** The service information referenced in this AD 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 Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 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; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Rob Capezutto, Aerospace Engineer, Systems and Flight Test Branch, ACE-116A, FAA, Small Airplane Directorate, Atlanta Aircraft Certification Office, One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia 30349; telephone (770) 703-6071; fax (770) 703-6097.

**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 certain EMBRAER Model EMB-120 series airplanes was published in the **Federal Register** on September 3, 1998 (63 FR 46932). That action proposed to require replacement of the fairlead support assemblies of the aileron control cable located in the nacelle outboard fittings with new, improved assemblies; and replacement of certain attachment screws with new screws.

#### **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.

#### **Support for the Proposal**

One commenter supports the proposed rule.

#### **Request To Withdraw Proposed Rule**

Two commenters state that the proposed rule is not warranted and cannot be justified. One commenter, an operator, does not agree that this is a safety of flight issue and states that the proposed AD does not specify the amount of wear found on the cables, or that the cables were in danger of, or close to, failure. In support of

withdrawal of the proposed rule, the commenter references two instances, one in 1991 and one in 1997, in which the Brazilian Centro Técnico Aeroespacial (CTA) documented that if a single cable failed during flight, the airplane would be able to land safely. The commenter also states that the EMB-120 Maintenance Review Board (MRB) inspection interval for the aileron cables is sufficient to ensure continued airworthiness in lieu of issuance of the final rule.

Another commenter, the manufacturer, states that inspections of certain airplanes conducted at its facility revealed cables with polished areas, but no indication of wear or rupture was detected. The commenter states also that operators that have not incorporated Revision 2 of the service bulletin have a rigorous inspection interval of every 400 flight hours, per the MRB. For operators that have incorporated Revision 2 of the service bulletin, the cable inspections are to be accomplished at each "5A" check (2,000 flight hours). The commenter states that during the past 10 years it has performed 25 "C" checks with no record of aileron cable replacement due to broken wires.

The FAA does not concur with the commenters' requests. The FAA does consider this a safety issue based on the determination that if the aileron cable were to break during a critical portion of the flight, such as during a steep turn or on approach for landing, it would result in reduced controllability of the airplane.

In addition, an investigation of service difficulties conducted by the FAA revealed over 200 reports of aileron cable wear. Although most of these occurred in the early 1990's, several cases were reported in 1997 and two through mid-1998. This suggests that not all operators are incorporating the service bulletin.

Based on this information, the FAA finds that issuance of the final rule is necessary to ensure an adequate level of safety for the affected fleet.

#### **Request To Revise Inspection Intervals**

One commenter states that Parts I, II, and III of EMBRAER Service Bulletin 120-27-0068, Change 02, dated March 20, 1998, include a statement referring to MRB Tasks 27-07 and 27-65 [the correct reference as stated in the service bulletin is Maintenance Planning Guide (MPG) Tasks 27-07 and 27-64] for inspection intervals of the specified areas, both pre- and post-mod. The commenter requests that the inspection interval of the post-mod installation be based on an analysis of inspection

findings and an agreement between the operator and its Principal Maintenance Inspector (PMI).

The FAA does not concur with the commenter's request. The FAA finds that, at this time, insufficient data exist to support allowing PMI's to make an assessment of aileron cable wear in order to increase the regular post-mod inspection intervals called out in the MPG. The FAA may, however, approve a request for an adjustment of the post-mod inspection intervals if data are submitted to substantiate that such an adjustment would provide an equivalent level of safety.

#### **Request To Extend Compliance Time and Add Repetitive Inspections**

One commenter requests that the FAA extend the proposed compliance time for the modification from within 400 hours time-in-service after the effective date of this AD, to within 500 hours time-in-service after the effective date of this AD. The commenter also requests that if the FAA proceeds with issuing this AD, inspections of the aileron cables be added; the inspections should be accomplished at intervals not to exceed 500 flight hours until installation of the modification. The commenter indicates that accomplishment of the modification cannot be completed within 400 hours time-in-service due to lack of availability of the kits used for the modification. The commenter states that one-third of the compliance time will be used waiting for delivery of the kits.

The FAA partially concurs with the commenter's request. The FAA has determined that allowing repetitive inspections of the aileron cables at intervals not to exceed 500 flight hours "until installation of the modification" is not appropriate in this case because it allows the inspections to continue indefinitely, which does not address the unsafe condition in a timely manner. However, the manufacturer has stated that parts kits are available 90 days after submission of the purchase request. In light of the time required to obtain the parts, the FAA agrees to revise the compliance time for accomplishment of the modification, and to add an option for repetitive inspections in accordance with procedures specified in the airplane maintenance manual. The FAA finds that repetitive inspections of the aileron cable at intervals not to exceed 400 hours time-in-service until accomplishment of the modification, for a time period not to exceed 6 months after the effective date of this AD, will not adversely affect safety, and will allow the modification to be performed at a base during regularly scheduled

maintenance where special equipment and trained maintenance personnel will be available if necessary. The Summary section, as well as paragraphs (a) and (b) of this final rule, have been revised accordingly.

#### **Explanation of Change to Proposal**

The FAA has added "Note 2" to the final rule to clarify the definition of a general visual inspection.

#### **Conclusion**

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

#### **Cost Impact**

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

For airplanes identified in Part I of EMBRAER Service Bulletin 120-27-0068, Change 02, it will take approximately 4 work hours per airplane to accomplish the required replacement of the fairlead support assemblies of the aileron control cable, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$1,464 per airplane. Based on these figures, the cost impact of this replacement required by this AD on U.S. operators is estimated to be \$386,808, or \$1,704 per airplane.

For airplanes identified in Part II of EMBRAER Service Bulletin 120-27-0068, Change 02, it will take approximately 1 work hour per airplane to accomplish the required replacement of the fairlead support assemblies of the aileron control cable, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$1,292 per airplane. Based on these figures, the cost impact of this replacement required by this AD on U.S. operators is estimated to be \$306,904, or \$1,352 per airplane.

For airplanes identified in Part III of EMBRAER Service Bulletin 120-27-0068, Change 02, it will take approximately 1 work hour per airplane to accomplish the required replacement of the fairlead support assemblies of the aileron control cable, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$501 per airplane. Based on these figures, the cost impact of this replacement required by this AD on U.S. operators is estimated to be \$127,347, or \$561 per airplane.

For airplanes identified in Part IV of EMBRAER Service Bulletin 120-27-0068, Change 02, it will take approximately 1 work hour per airplane to accomplish the required replacement of the attachment screws, at an average labor rate of \$60 per work hour. Required parts cost will be minimal. Based on these figures, the cost impact of this replacement required by this AD on U.S. operators is estimated to be \$13,620, or \$60 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

Should an operator elect to accomplish the optional repetitive inspections provided by this AD action, it would take approximately 2 work hours per airplane, per inspection cycle, to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the inspections would be \$60 per airplane, per inspection cycle.

#### **Regulatory Impact**

The regulations adopted herein will 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 final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) 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 final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the

Administrator, the Federal Aviation Administration amends 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:

**99-17-04 Empresa Brasileira de Aeronautica S.A. (Embraer):** Amendment 39-11253. Docket 98-NM-233-AD.

**Applicability:** Model EMB-120 series airplanes, as listed in EMBRAER Service Bulletin 120-27-0068, Change 02, dated March 20, 1998, certificated in any category.

**Note 1:** This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been otherwise 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 (c) 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 chafing between the aileron control cables and nylon grommets, which could result in failure of the aileron cables, and consequent reduced controllability of the airplane, accomplish the following:

(a) Within 400 hours time-in-service after the effective date of this AD, accomplish the requirements of either paragraph (a)(1) or (a)(2) of this AD.

### **Repetitive Inspections**

(1) Perform a general visual inspection to detect chafing between the aileron control cables and nylon grommets, in accordance with the procedures specified in EMBRAER EMB-120 Airplane Maintenance Manual, Chapters 20-20-01, 27-00-01, and 27-11-00.

(i) If any chafing is detected, prior to further flight, accomplish the requirements of paragraph (b) of this AD.

(ii) If no chafing is detected: Repeat the inspection thereafter at intervals not to exceed 400 hours time-in-service until the requirements of paragraph (b) of this AD have been accomplished.

### **General Visual Inspection**

**Note 2:** For the purposes of this AD, a general visual inspection is defined as: "A

visual examination of an interior or exterior area, installation or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or drop-light and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

(2) Accomplish the requirements of paragraph (b) of this AD.

### **Replacement**

(b) Except as provided by paragraph (a)(2) of this AD: Within 6 months after the effective date of this AD, accomplish the requirements of paragraph (b)(1), (b)(2), (b)(3), or (b)(4) of this AD, as applicable, in accordance with EMBRAER Service Bulletin 120-27-0068, Change 02, dated March 20, 1998. Accomplishment of the requirements of this paragraph constitutes terminating action for the repetitive inspections specified in paragraph (a)(1) of this AD.

(1) For airplanes having serial numbers 120003, 120004, and 120006 through 120217 inclusive, on which the modification specified in EMBRAER Service Bulletin 120-27-0068, dated February 28, 1991, has not been accomplished: Replace the fairlead support assemblies of the aileron control cable (provided with fairleads in both Teflon and nylon) located in the nacelle outboard fittings with new, improved assemblies (Part I), in accordance with the service bulletin.

(2) For airplanes having serial numbers 120003, 120004, and 120006 through 120217 inclusive, on which the modification specified in EMBRAER Service Bulletin 120-27-0068, dated February 28, 1991, has been accomplished; and airplanes having serial numbers 120218 through 120331 inclusive: Replace the fairlead support assemblies of the aileron control cable (provided with fairleads in Teflon) located in the nacelle outboard fittings with new, improved assemblies (Part II), in accordance with the service bulletin.

(3) For airplanes having serial numbers 120003, 120004, and 120006 through 120331 inclusive, on which the modification specified in EMBRAER Service Bulletin 120-27-0068, dated February 28, 1991, or Change 01, dated August 1, 1997, has been accomplished; and airplanes having serial numbers 120332 and 120333: Replace the attachment screws and the fairlead support assemblies of the aileron control cable with new, improved assemblies (Part III), in accordance with the service bulletin.

(4) For airplanes having serial numbers 120334, 120335, and 120336: Replace the attachment screws of the fairlead support assemblies of the aileron control cable (Part IV), in accordance with the service bulletin.

### **Alternative Methods of Compliance**

(c) 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 3:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Atlanta ACO.

### **Special Flight Permits**

(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.

### **Incorporation by Reference**

(e) The replacement shall be done in accordance with EMBRAER Service Bulletin 120-27-0068, Change 02, dated March 20, 1998. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343—CEP 12.225, Sao Jose dos Campos—SP, Brazil. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW, Renton, Washington; or FAA, Small Airplane Directorate, Atlanta Aircraft Certification Office, One Crown Center, 1895 Phoenix Boulevard, Suite 450, Atlanta, Georgia; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(f) This amendment becomes effective on September 22, 1999.

Issued in Renton, Washington, on August 6, 1999.

**D.L. Riggins,**

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

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

### **14 CFR Part 39**

[Docket No. 93-NM-125-AD; Amendment 39-11255; AD 99-17-06]

RIN 2120-AA64

### **Airworthiness Directives; Airbus Model A310 Series Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain Airbus Model A310 series airplanes, that requires repetitive inspections and tests to detect missing or damaged vespel bushes on the slat system universal joint assemblies of the left- and right-hand wings; and replacement of the universal joints with new joints, if necessary. This