



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0250; Directorate Identifier 2016-NM-158-AD; Amendment 39-18976; AD 2017-15-16]**

**RIN 2120-AA64**

**Airworthiness Directives;** Empresa Brasileira de Aeronautica S.A. (Embraer)

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. This AD was prompted by a report of airplanes with modified gust lock levers that prevented the thrust lever's full excursion, thus limiting the engine power. This AD requires replacing a certain gust lock lever. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Empresa Brasileira de Aeronautica S.A. (Embraer), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – Brasil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); Internet <http://www.flyembraer.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0250.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0250; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. The NPRM published in the Federal Register on April 20, 2017 (82 FR 18590) (“the NPRM”).

The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2016-07-01, dated July 18, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. The MCAI states:

ANAC was informed about occurrences in which airplanes that incorporated SB 145-27-0115, which changes the Gust Lock lever format, managed to takeoff, or performed [rejected take-offs] RTOs, in such a configuration that the Gust Lock lever prevented the thrust levers full excursion, thus limiting the engine power to about 70% of the nominal takeoff power. Analyses and simulations conducted by the manufacturer confirmed this as a possible scenario in case some verification procedures prior to and during takeoff, for whatever reason, are not properly performed. After

evaluation, the conclusion was that the incorporation of SB 145-27-0115 would take away an important tactile cue regarding the thrust levers position, which, in a timely manner, would alert the crew of an improper takeoff configuration. During takeoffs, or attempts thereof, in such condition, the airplane would have a reduced performance, which would increase the required takeoff distance or the RTO distance, and reduce the airplane capacity to clear obstacles.

Since this condition may occur in other airplanes of the same type and affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this [Brazilian] AD in the indicated time limit.

Required actions include replacing a certain gust lock lever. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0250.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comment received on the NPRM and the FAA's response to that comment.

### **Request to Revise the Compliance Time**

Air Line Pilots Association, International (ALPA) requested that the compliance time in the NPRM be revised. ALPA stated that since the Embraer service information was published 19 months prior, operators have been provided ample time to perform inspections to determine whether a corrective action is required. ALPA commented that, therefore, it is in partial support of the NPRM and suggested an inspection compliance

time of 12 months or 2,500 flight hours after the effective date of the AD, and a repair compliance time of 24 months or 5,000 hours after the effective date of the AD.

We disagree with the commenter's request. In developing an appropriate compliance time, we considered the safety implications, parts availability, and normal maintenance schedules for timely accomplishment of inspecting and replacing the gust lock lever. Further, we arrived at the proposed compliance time with operator and manufacturer concurrence. Since the actions specified in the Brazilian AD and service information are not mandatory in the U.S., the FAA must issue a final rule to mandate those actions in order to address the identified unsafe condition. In consideration of all of these factors, we determined that the compliance time, as proposed, represents an appropriate time in which the gust lock lever can be inspected and replaced in a timely manner within the fleet, while still maintaining an adequate level of safety. We have not changed this AD in this regard.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

**Related Service Information under 1 CFR part 51**

We have reviewed Embraer Service Bulletin 145-27-0126, dated October 6, 2015. This service information describes procedures for replacement of a certain gust lock lever for one with an alternative format.

We have also reviewed Embraer Service Bulletin 145-27-0115, Revision 03, dated October 5, 2015. This service information describes modification procedures involving replacement of the gust lock lever with a new gust lock lever enabling both engine thrust levers to be advanced at the same angle as that of the electromechanical gust lock lever.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**Costs of Compliance**

We estimate that this AD affects 668 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$56,780

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need this replacement:

**On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Replacement	1 work-hour X \$85 per hour = \$85	\$6,315	\$6,400

**Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will 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.

For the reasons discussed above, I certify that this AD:

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);
3. Will not affect intrastate aviation in Alaska; and
4. 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.

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

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

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

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2017-15-16 Empresa Brasileira de Aeronautica S.A. (Embraer):** Amendment 39-18976; FAA-2017-0250; Directorate Identifier 2016-NM-158-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Reason**

This AD was prompted by a report of airplanes with modified gust lock levers that performed take-offs or rejected take-offs (RTOs), in such a configuration that the gust lock lever prevented the thrust lever's full excursion, thus limiting the engine power to about 70% of the nominal take-off power. We are issuing this AD to prevent incorrect configuration of the gust lock lever, which could reduce the airplane's performance during take-offs or attempted take-offs, increase the required take-off distance or the RTO distance, and reduce the airplane's capacity to clear obstacles.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection**

Within 5,000 flight hours or 24 months after the effective date of this AD, whichever occurs first: Check the airplane maintenance records to determine whether the actions specified in Embraer Service Bulletin 145-27-0115 have been done. If the records review is inconclusive, inspect the engine control box assembly against the Accomplishment Instructions of Embraer Service Bulletin 145-27-0115, Revision 03, dated October 5, 2015, to determine whether the actions specified in Embraer Service Bulletin 145-27-0115 have been done.

**(h) Corrective action**

If the check or inspection required by paragraph (g) of this AD indicates that the actions in Embraer Service Bulletin 145-27-0115 have been done: Within 5,000 flight hours or 24 months after the effective date of this AD, whichever occurs first, replace the gust lock lever, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145-27-0126, dated October 6, 2015.

**(i) Acceptable alternative**

Modification of the airplane to a pre-modification condition (configuration before incorporating Embraer Service Bulletin 145-27-0115), within the compliance times specified in paragraph (h) of this AD, in accordance with a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Agência Nacional de Aviação Civil (ANAC); or ANAC's authorized Designee, is acceptable for compliance with paragraph (h) of this AD.

**(j) Prohibited Modification**

As of the effective date of this AD, do not accomplish the actions specified in Embraer Service Bulletin 145-27-0115 on any airplane.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to the attention of the person identified in paragraph (1)(2) of this AD. Information may be emailed to: [9-ANM-116-AMOC-REQUESTS@faa.gov](mailto:9-ANM-116-AMOC-REQUESTS@faa.gov). Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Brazilian Airworthiness Directive 2016-07-01, dated July 18, 2016, for related information. This

MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0250.

(2) For more information about this AD, contact Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Embraer Service Bulletin 145-27-0115, Revision 03, dated October 5, 2015.

(ii) Embraer Service Bulletin 145-27-0126, dated October 6, 2015.

(3) For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (Embraer), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – Brasil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); Internet <http://www.flyembraer.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on July 19, 2017.

Victor Wicklund,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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