AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2020-07-02 **Effective Date: 21 Jul. 2020**

The following Brazilian Airworthiness Directive (AD), issued by the Agência Nacional de Aviação Civil (ANAC) in accordance with provisions of Chapter IV, Title III of Código Brasileiro de Aeronáutica - Law No. 7,565 dated 19 December 1986 - and Regulamento Brasileiro da Aviação Civil (RBAC) 39, applies to all aircraft registered in the Registro Aeronáutico Brasileiro. No person may operate an aircraft to which this AD applies, unless it has previously complied with the requirements established herein.

AD No. 2020-07-02 - YABORÃ / 39-1466.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Yaborã Indústria Aeronáutica S.A. model EMB-145, EMB-145ER, EMB-145EU, EMB-145EP, EMB-145LR, EMB-145MR, EMB-145LU, EMB-145MP, EMB-145MK, EMB-145XR, EMB-135ER, EMB-135LR, EMB-135KE, EMB-135KL and EMB-135BJ airplanes, all serial numbers, equipped with FADEC P/N 23073999, 23074000, 23074001, 23074002, 23076287, 23076627, 23076628, 23076629, 23076630, 23076632, 23078443, 23078445, 23078456, 23078457, 23078458, 23078828, 23078829, 23078830, 23078836, 23078837, 23083588, 23083670, 23083671, 23089364, 23092278 or 23092279.

CANCELLATION / REVISION:

Not applicable.

REASON:

It was verified that the calculations provided by the ATTCS (Automatic Takeoff Thrust Control System) system do not take into consideration the required engine air bleed during operations with a single engine and anti-ice system on. In this case there is a risk of over-prediction of the operational margins, without providing the necessary alert to the flight crew in some situations. Considering this, if a failure occurs during the takeoff leading to a performance reduction, the aircraft may not be capable of completing a safe takeoff.

Since this condition affects safety, it is necessary an action that corrects the ATTCS system, thus, sufficient reason exists to request compliance with this AD within the indicated time limit.

REQUIRED ACTION:

This AD requires the update of the software installed in the FADECs.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) FADECs software update

Within 18 months after the effective date of this AD, update the software of all the installed FADECs to version B9.4 or B9.4.1 as required by the applicable service bulletins according to paragraph

(d) of this AD, or further software versions according with service bulletins recommended by the aircraft manufacturer.

NOTE: The use of FADECs with installed versions of software previous to version B9.4 is being discontinued by this AD from the date of the software update .

(b) Credit for previous actions

This paragraph provides credit for the actions specified in paragraph (a) of this AD, if those actions were performed before the effective date of this AD according to previous revisions of the service bulletins specified on the paragraph (d) of this AD.

(c) Alternative Methods of Compliance (AMOC)

A different method or a different compliance time with the requirements of this AD may be used if approved by the General Manager of ANAC's Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos – GGCP). The AMOC approval letter must specifically reference this AD.

(d) Material incorporated by reference

To accomplish the actions required by this AD, use the following service bulletins:

(1) For installation of FADEC software B9.4 on aircraft equipped with engines AE 3007A1: Service Bulletin Embraer 145-73-0035, revision 02, dated October 21st 2015, or further revisions approved by ANAC.

(2) For installation of FADEC software B9.4 on aircraft equipped with engines AE 3007A1/1: Service Bulletin Embraer 145-73-0036, revision 02, dated October 21st 2015, or further revisions approved by ANAC.

(3) For installation of FADEC software B9.4 on aircraft equipped with engines AE 3007A1/3: Service Bulletin Embraer 145-73-0037, revision 02, dated October 21st 2015, or further revisions approved by ANAC.

(4) For installation of FADEC software B9.4 on aircraft which are not model EMB-135BJ equipped with engines AE 3007A1P: Service Bulletin Embraer 145-73-0038, revision 02, dated October 21st 2015, or further revisions approved by ANAC.

(5) For installation of FADEC software B9.4 on aircraft which are not model EMB-135BJ equipped with engines AE 3007A1E: Service Bulletin Embraer 145-73-0039, revision 02, dated June 29th 2015, or further revisions approved by ANAC.

(6) For installation of FADEC software B9.4.1 on aircraft equipped with engines AE 3007A1: Service Bulletin Embraer 145-73-0040, revision 02, dated June 22nd 2017, ou revisões posteriores aprovadas pela ANAC.

(7) For installation of FADEC software B9.4.1 on aircraft equipped with engines AE 3007A1/1: Service Bulletin Embraer 145-73-0041, revision 02, dated June 23rd 2017, or further revisions approved by ANAC.

(8) For installation of FADEC software B9.4.1 on aircraft equipped with engines AE 3007A1/3: Service Bulletin Embraer 145-73-0042, revision 02, dated June 23rd 2017, or further revisions approved by ANAC.

(9) For installation of FADEC software B9.4.1 on aircraft which are not model EMB-135BJ equipped with engines AE 3007A1P: Service Bulletin Embraer 145-73-0043, revision 02, dated June 23rd 2017, ou or further revisions approved by ANAC.

(10) For installation of FADEC software B9.4.1 on aircraft which are not model EMB-135BJ equipped with engines AE 3007A1E: Service Bulletin Embraer 145-73-0044, revision 02, dated June 23rd 2017, or further revisions approved by ANAC.

(11) For installation of FADEC software B9.4 on aircraft model EMB-135BJ equipped with engines AE 3007A2: Service Bulletin EMBRAER 145LEG-73-0008, revision 01, dated March 10th 2017, or further revisions approved by ANAC.

(12) For installation of FADEC software B9.4 on aircraft model EMB-135BJ equipped with engines AE 3007A1P: Service Bulletin EMBRAER 145LEG-73-0009, revision 02, dated March 10th 2017, or further revisions approved by ANAC.

(13) For installation of FADEC software B9.4 on aircraft model EMB-135BJ equipped with engines AE 3007A1E: Service Bulletin EMBRAER 145LEG-73-0010, revision 01, dated March 10th 2017, or further revisions approved by ANAC.

(14) For installation of FADEC software B9.4.1 on aircraft model EMB-135BJ equipped with engines AE 3007A1E: Service Bulletin EMBRAER 145LEG-73-0011, revision 01, dated March 10th 2017, or further revisions approved by ANAC.

(15) For installation of FADEC software B9.4.1 on aircraft model EMB-135BJ equipped with engines AE 3007A1P: Service Bulletin EMBRAER 145LEG-73-0012, revision 01, dated March 10th 2017, or further revisions approved by ANAC.

(16) For installation of FADEC software B9.4.1 on aircraft model EMB-135BJ equipped with engines AE 3007A2: Service Bulletin EMBRAER 145LEG-73-0013, revision 02, dated March 10th 2017, or further revisions approved by ANAC.

Record compliance with this AD in the applicable maintenance log book.

CONTACT:

For additional technical information, contact:

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APPROVAL:

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Airworthiness Superintendent
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NOTE: Original in Portuguese language signed and available in the files of the Aeronautical Products Certification Branch (GGCP) of the National Civil Aviation Agency (ANAC).