



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2012-03-02

Effective Date: 20 Mar. 2012

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. 2012-03-02 - EMBRAER / 39-1352.

APPLICABILITY:

This Airworthiness Directive (AD) applies to EMBRAER S.A. models EMB-145, EMB-145ER, EMB-145EU, EMB-145EP, EMB-145LR, EMB-145MR, EMB-145LU, EMB-145MP, EMB-145MK, EMB-135ER, EMB-135BJ, EMB-135LR, EMB-135KE and EMB-135KL; equipped with FADEC software B5.1.1 version, as follow.

<i>Engines</i>	<i>FADEC - Part Number</i>
<i>AE3007A e AE3007A1/1</i>	<i>23073999</i>
<i>AE3007A1</i>	<i>23074000</i>
<i>AE3007A1P</i>	<i>23074001</i>
<i>AE3007A1/3</i>	<i>23074002</i>
<i>AE3007A3</i>	<i>23074003</i>

CANCELLATION / REVISION:

Not applicable.

REASON:

An error was identified in the FADEC software B5.1.1 version of the Rolls-Royce AE3007A engines and can preclude the automatic closing of air conditioner valves when the thrust levers are commanded to MAX position during go-around phase associated with one engine failure. Its closure can compromise the airplane certified performance.

Based on the presence of this error on the FADEC software, and that the performance charts, as published in the Aircraft Flight Manual (AFM) 145/1152 revision 77, the AFM 140/1329 revision 08 and AFM 135/1539 original issuance, inadequate information to obtain correct performance from the airplane in go-around phase associated with one engine failure, as this condition affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this AD in the indicated time limit.

REQUIRED ACTION:

Introduction of an operational limitation on the AFM of airplanes equipped with FADEC software B5.1.1 version.

COMPLIANCE:

The actions required by this AD must be executed as indicated below, unless already accomplished before.

Introduction of an operational limitation on the AFM limitation section:

(a) Within 30 days after the effective date of this AD, include in the AFM limitation section, the Table - 01, Table - 02 or Table - 03, as applicable. After the upgrade of FADEC software version B5.1.1, or insertion of the AFM general revision to have this limitation, the limitation required by paragraph (a) of this AD may be removed from the AFM.

NOTE: Inserting a copy of this AD into the applicable section of AFM constitutes an alternative method of compliance with this AD requirements.

Table - 01 – Performance degradation applicable to airplanes using the AFM-145/1152.

Engine	AFM - Operational Limitation	
	Approach Climb Gradient must be decreased by:	Approach Climb limited weight must be decreased by:
AE3007A and A1/1	1.5%	1260kgf
AE3007A1/3	1,0%	830kgf
AE3007A1	1,0%	870kgf
AE3007A1P	1,1%	870kgf
AE3007A3	1,0%	830kgf

Table - 02 – Performance degradation applicable to airplanes using AFM-140/1329.

Engine	AFM - Operational Limitation	
	Approach Climb Gradient must be decreased by:	Approach Climb limited weight must be decreased by:
AE3007A1/3	1,0%	840kgf

Table - 03 – Performance degradation applicable to airplanes using AFM-135/1539.

Engine	AFM - Operational Limitation	
	Approach Climb Gradient must be decreased by:	Approach Climb limited weight must be decreased by:
AE3007A1P	1,1%	870kgf

Alternative means of Compliance (AMOC):

(b) A different method or a different compliance time, with requirements of this AD, may be used if approved by the General Manager of the Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos – GGCP).

CONTACT:

For additional technical information, contact:

National Civil Aviation Agency (ANAC)

Aeronautical Products Certification Branch (GGCP)

Av. Cassiano Ricardo, 521, Bloco B, 2º andar, Parque Residencial Aquarius

Fax: 55 (12) 3797-2330

12246-870 – São José dos Campos - SP, BRAZIL.

E-mail: pac@anac.gov.br

APPROVAL:

HÉLIO TARQUÍNIO JÚNIOR
General Manager
GGCP

DINO ISHIKURA
Airworthiness Superintendent
ANAC

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).