



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN EMERGENCY AIRWORTHINESS DIRECTIVE

EAD No: 2022-05-02

Effective Date: 13 May 2022

The following Brazilian Emergency Airworthiness Directive (EAD), 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.

EAD No. 2022-05-02 - EMBRAER / 39-1494.

APPLICABILITY:

This Emergency Airworthiness Directive is applicable to EMBRAER S.A. aircraft models ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, or ERJ 170-200 LL in operation, that have not incorporated Embraer Service Bulletin (SB) N° 170-57-0072, equipped with any of the following Part Numbers (PN):

- PN 171-16231-001 or PN 171-16231-003 (*Left-Hand Wing Tip Spar 1*)
- PN 171-16231-002 or PN 171-16231-004 (*Right-Hand Wing Tip Spar 1*)

CANCELLATION / REVISION:

Not applicable.

REASON:

Following an occurrence of an in-flight detachment of a right-hand wing tip on an ERJ 170-200 airplane, it has been found the possibility of cracks development on the wing tip connection area that can affect its structural integrity to the point of an in-flight detachment being possible. Even if the airplane maintains sufficient controllability for a safe continuation of the flight, there is a possibility that the detached part may damage other aircraft parts, affecting controllability, as well as to people or property on the ground.

Since this condition may occur in other aircraft of the same type and affects flight safety, an immediate corrective action is required. Thus, sufficient reason exists to request compliance with this EAD in the indicated time limit without prior notice.

REQUIRED ACTION:

Inspection of the affected Left-Hand (LH) and Right-Hand (RH) wing tip connections for cracks, and rework as necessary, and modification of the Airworthiness Limitations.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) Inspection of affected areas, and Airworthiness Limitations update

Within the compliance times established in **Table 1** below, perform the actions established in paragraphs **(a)(i)** to **(a)(iii)** of this EAD.

Table 1 – Compliance Times

Flight Hours (FH) accumulated from installation of affected PN	Compliance time, from the effective date of this EAD
between 7,500 and 10,399	Before aircraft accumulates 11,650 FH from the installation of the affected PN, or within the next 2,500 FH, whichever occurs first
between 10,400 and 14,399	Before aircraft accumulates 14,600 FH from the installation of the affected PN, or within the next 1,250 FH, whichever occurs first
between 14,400 and 19,799	Before aircraft accumulates 19,810 FH from the installation of the affected PN, or within the next 200 FH, whichever occurs first
19.800 or greater	Within the next 10 FH

Note: "Affected PN" means any of the PN listed on the APPLICABILITY section of this EAD.

(i) Do a Detailed Inspection on the spar 1 of the Left-Hand (LH) wing and wing tip, at the region of their connections, to see if there is any crack(s) on them. Use Embraer SB N° 170-57-A072, original revision, dated May 06th, 2022, or its later revisions approved by the ANAC, for reference regarding the area to be inspected. Correct any discrepancies before further flight.

(ii) Do a Detailed Inspection on the spar 1 of the Right-Hand (RH) wing and wing tip, at the region of their connections, to see if there is any crack(s) on them. Use Embraer SB N° 170-57-A072, original revision, dated May 06th, 2022, or its later revisions approved by the ANAC, for reference regarding the area to be inspected. Correct any discrepancies before further flight.

Note: for the purposes of this EAD, a Detailed Inspection (DET) is defined as follows:

Detailed Inspection (DET): An intensive examination of a specific item, installation or assembly to detect damage, failure or irregularity. This could include tactile assessment in which a component or assembly can be checked for tightness/security. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors and magnifying lenses may be necessary. Surface cleaning and elaborate access procedures may be required

(iii) Modify task **57-30-002-0002** of the Airworthiness Limitations Section, on MRB 1621, APPENDIX A - PART 2 - AIRWORTHINESS LIMITATION INSPECTIONS (ALI) - STRUCTURES, to revise its compliance interval in accordance with column "**New Threshold / Interval**" of **Table 2**, below:

Table 2 – Airworthiness Limitations Section update

MRBR Task Number	Type Category	Title Description	Applicability	Current Threshold / Interval	New Threshold / Interval
57-30-002-0002	DET	ENHANCED WINGTIP TO WING SPAR ATTACHMENTS - INTERNAL <i>Detailed Inspection of Enhanced Wingtip to Wing Spar 1 and Spar 2 attachments - Internal Side of Wingtip and Wingtip Fairing.</i>	POST-MOD SB 170-57-0058 AND PRE-MOD SB 170-57-0072	I: 16589 FC OR I: 22063 FH Whichever occurs first	I: 1000 FH

(b) Communication of findings

Within 36 hours after performing any of the inspections required by this EAD, in the event any crack is found, report the fact to Embraer and ANAC, with a description of the findings (including crack size), as well as informing the Flight Hours accumulated from the installation of the affected PN. For this communication, use the e-mail addresses listed below, as well as the subject "E175 Wingtip - SB170-57-A072 findings communication":

- fleet.performance@embraer.com.br
- fleet.reliability@embraer.com.br
- pac@anac.gov.br

(c) Alternative Method of Compliance

A different method or a different compliance time, with the requirements of this EAD, may be used if approved by the Manager of the Continuing Airworthiness Technical Branch (GTAC) of ANAC.

(d) Material incorporated by reference

You must use Embraer Service Bulletin N° 170-57-A072, original revision, dated May 06th, 2022, or its later revisions approved by the ANAC, to perform the action required by this EAD, unless this EAD specifies otherwise.

Record compliance with this EAD in the applicable maintenance logbook.

CONTACT:

For additional technical information, contact:

National Civil Aviation Agency (ANAC)
Continuing Airworthiness Technical Branch (GTAC)
Rua Doutor Orlando Feirabend Filho, nº 230
Centro Empresarial Aquárius – Torre B – 14º andar
Parque Residencial Aquárius
CEP 12246-190 – São José dos Campos, SP – BRAZIL.
Tel.: (12) 3203-6600; E-mail: pac@anac.gov.br

APPROVAL:

ROBERTO JOSÉ SILVEIRA HONORATO
Head of Department
Department of Airworthiness (SAR)
ANAC

NOTE: Original in Portuguese language signed and available in the files of the Continuing Airworthiness Technical Branch (GTAC) of the Brazilian National Civil Aviation Agency (ANAC).

Referência: Processo nº 00066.005781/2022-88

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