AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2022-02-01 **Effective Date: 09 Feb. 2022**

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. 2022-02-01 - EMBRAER / 39-1489.

APPLICABILITY:

(a) This Airworthiness Directive (AD) applies to Embraer S.A. airplanes model ERJ 170-100 STD, ERJ 170-100 LR, ERJ 170-100 SU, ERJ 170-100 SE, ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU and ERJ 170-200 LL in operation.

Note: This AD requires revisions to certain operator maintenance documents to include new inspections or modification to the existing ones and its respective thresholds and intervals. Compliance with these inspections is required by section 91.403(c) of RBAC 91. For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with section 91.403(c) of RBAC 91, the operator must request approval for an alternative method of compliance according to paragraph (d) of this AD. The request should include a description of changes to the required inspections that will ensure the continued damage tolerance of the affected structure.

CANCELLATION / REVISION:

This AD cancels and supersedes the AD No. 2019-05-01- EMBRAER / 39-1440, dated May 02, 2019, and is being issued to revise the airworthiness limitations and to require structural modifications on the airplanes of paragraph (a) of this AD.

REASON:

This AD was prompted by a new revision to the airworthiness limitations of the Maintenance Review Board Report (MRBR) and due to an evaluation by the design approval holder indicating that some structural elements are subject to Widespread Fatigue Damage (WFD). Therefore, some modifications are required to be done before the Structural Modification Point (SMP) is reached, and a set of inspections is established to preclude the WFD, which may affect the structural integrity of the airplane.

Since this condition may occur in other airplanes and 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:

Revision of the maintenance or inspection program, as applicable, to incorporate the applicable Airworthiness Limitation Inspections (ALI) and incorporation of structural modifications before the defined Structural Modifications Points (SMP) are reached.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(b) Revision of maintenance program.

Within three months after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the applicable ALI, as described in paragraph **(b)(1)** of this AD.

(1) For the airplanes identified in paragraph (a) of this AD, incorporate information in Part 2, Airworthiness Limitation Inspections – Structures, in Appendix A, Airworthiness Limitations, of the Embraer 170/175 Maintenance Review Board Report, MRB 1621, Revision 17, dated July 01, 2021.

(2) The compliance times depend on the airplane configuration, and the pre-modification and postmodification conditions specified in Part 2, Airworthiness Limitation Inspections – Structures, in Appendix A, Airworthiness Limitations, of the Embraer 170/175 Maintenance Review Board Report, MRB 1621, Revision 17, dated July 01, 2021.

(3) The initial compliance time (threshold) for the new inspections incorporated by this AD is within the applicable times specified in Part 2, Airworthiness Limitation Inspections – Structures in Appendix A, Airworthiness Limitations, of the Embraer 170/175 Maintenance Review Board Report, MRB 1621, Revision 17, dated July 01, 2021. For the purposes of this AD, the initial compliance times (identified as "Threshold" or "T" in the service information) are expressed in "total flight cycles" or in "total flight hours" as applicable.

(c) Implementation of structural modifications.

(1) Incorporate the structural modifications referring to the service documents listed in Table 01 before their respective Structural Modification Points (SMP) are reached. The SMP is defined in Flight Cycles Since New (FCSN) or Flight Hours Since New (FHSN) for each modification as established in the column “SMP – applicable FCSN and FHSN” of the same table.

Table 01 – Structural Modification Point and associated Service Documents.

Modification	Service Document	SMP – applicable FCSN and FHSN
Reinforcement of Left Hand (LH) and Right Hand (LH) wing spar II lower	Embraer SB N.170-57-0053, Rev. 02, dated May 22, 2019, Parts III and IV	40,000 FCSN or 53,200 FHSN, whichever occurs first.
Reinforcement of the wing lower skin chordwise splices of LH and RH wing	Embraer SB N.170-57-0071, Original Revision, dated August 02, 2019, Parts I and II	40,000 FCSN or 53,200 FHSN, whichever occurs first.

(d) Credit for previous actions.

This paragraph provides credit for the actions specified in paragraph **(c)** of this AD, if those actions were performed before the effective date of this AD according to Embraer SB N.170-57-0053, Original Revision, dated June 06, 2012 and Embraer SB N.170-57-0053, Rev. 01, dated August 29, 2012.

(e) Alternative methods of compliance (AMOCs).

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

(f) Material incorporated by reference.

You must use the Appendix A, Airworthiness Limitations, of the Embraer 170/175 Maintenance Review Board Report, MRB 1621, Revision 17, dated July 01, 2021; Embraer SB N.170-57-0053, Rev. 02, dated May 22, 2019 and the Embraer SB N.170-57-0071, Original Revision, dated August 02, 2019, or further revisions of these documents approved by ANAC, to do the actions required by this AD, unless this AD specifies otherwise

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