

Airworthiness Directive

AD No.: 2020-0179

Issued: 12 August 2020

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

YABORA INDUSTRIA AERONAUTICA S.A.

Type/Model designation(s):

ERJ 170 and ERJ 190 aeroplanes

Effective Date: 26 August 2020

TCDS Number(s): EASA.IM.A.001 and EASA.IM.A.071

Foreign AD: This AD is related to Agência Nacional de Aviação Civil (ANAC) Brazil [AD 2017-03-01](#) dated 24 March 2017.

Replacement: For affected aeroplanes operated under EU regulation, this AD replaces ANAC Brazil State of Design AD 2017-03-01, which is not adopted by EASA.

ATA 53 – Fuselage – Forward Pressure Bulkhead – Inspection / Repair

Manufacturer(s):

Yaborã Indústria Aeronáutica S.A., formerly Embraer, S.A., Empresa Brasileira de Aeronáutica S.A.

Applicability:

Model ERJ 170-100 LR, ERJ 170-100 STD, ERJ 170-200 LR and ERJ 170-200 STD aeroplanes, manufacturer serial numbers (MSN) 17000002, 17000004 to 17000013 inclusive and 17000015 to 17000214 inclusive; and

Model ERJ 190-100 IGW, ERJ 190-100 LR, ERJ 190-100 SR, ERJ 190-100 STD, ERJ 190-200 IGW, ERJ 190-200 LR and ERJ 190-200 STD aeroplanes, MSN 19000002, 19000004, 19000006 to 19000108 inclusive, 19000110 to 19000139 inclusive, 19000141 to 19000158 inclusive, and 19000160 to 19000174 inclusive.

Definitions:

For the purpose of this AD, the following definitions apply:

The applicable MRB Task: Embraer 170/175 Maintenance Review Board (MRB) Report, MRB-1621 Revision 13, and Embraer 190/195 MRB-1928 Revision 11, specifically task 53-10-001-0003.

The applicable SB: Embraer Service Bulletin (SB) 170-53-0051, Revision 5, and SB 190-53-0019, Revision 6, as applicable.

Reason:

An evaluation by the design approval holder indicated that the forward pressure bulkhead is subject to widespread fatigue damage.

This condition, if not detected and corrected, could lead to fatigue cracking of the forward pressure bulkhead, possibly resulting in reduced structural integrity of the aeroplane.

To address this potential unsafe condition, Embraer issued Temporary Revision (TR) 12-3 to Embraer 170/175 MRB-1621 and TR 10-4 to Embraer 190/195 MRB-1928, providing inspection instructions. Embraer also issued the applicable SB, providing a modification that constitutes terminating action for the repetitive inspections identified in the respective MRB TRs. This modification has been approved by EASA.

Consequently, ANAC Brazil issued AD 2017-03-01 to require repetitive detailed inspections (DET) in accordance with the instructions of the MRB TRs identified above. That AD also requires an in-service modification (reinforcement) of the forward pressure bulkhead, as defined in Embraer SB 170-53-0051 and SB 190-53-0019, intended to support the aeroplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program.

Initially, EASA adopted the ANAC Brazil AD, but when it was determined that Embraer had not submitted the new DET method (with reduced threshold and interval) and associated substantiation to EASA for approval, the adoption was suspended. At the time of issuance of this AD, EASA has not approved the DET with reduced threshold and interval.

For the reasons described above, EASA has decided not to adopt ANAC Brazil AD 2017-03-01. For those same reasons, this AD requires repetitive special detailed inspections (SDI) of the forward pressure bulkhead web aft face to detect cracking and, depending on findings, accomplishment of approved repair action(s). This AD also requires a modification which constitutes terminating action for the repetitive SDI, as required by this AD. The terminating action required by this AD is identical to the terminating action required by ANAC Brazil AD 2017-03-01.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) Before exceeding 25 954 flight cycles (FC) since first flight of the aeroplane, or within 3 600 FC after the effective date of this AD, whichever occurs later, and, thereafter, at intervals not to exceed 6 489 FC, accomplish an SDI of the forward pressure bulkhead web aft face in accordance with the instructions of the applicable MRB Task.

Corrective Action(s):

- (2) If, during any SDI as required by paragraph (1) of this AD, cracks are detected, before next flight, repair the forward pressure bulkhead in accordance with instructions approved by ANAC Brazil, or by EASA.



Modification:

- (3) Before exceeding 38 931 FC since first flight of the aeroplane, modify the forward pressure bulkhead in accordance with the instructions of the applicable SB.

Terminating Action:

- (4) Accomplishment of a repair on an aeroplane, as required by paragraph (2) of this AD, does not constitute terminating action for the repetitive SDI as required by paragraph (1) of this AD for that aeroplane.
- (5) Modification of an aeroplane as required by paragraph (3) of this AD constitutes terminating action for the repetitive SDI as required by paragraph (1) of this AD for that aeroplane.

Ref. Publications:

Embraer 170/175 MRB Report MRB-1621 Revision 13 dated 10 May 2017, Task 53-10-001-0003.

Embraer 190/195 MRB Report MRB-1928 Revision 11 dated 10 May 2017, Task 53-10-001-0003.

Embraer SB 170-53-0051 Revision 5 dated 22 February 2018.

Embraer SB 190-53-0019 Revision 6 dated 22 February 2018.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. This AD was posted on 25 March 2020 as PAD 20-057 for consultation until 22 April 2020. The Comment Response Document can be found in the [EASA Safety Publications Tool](#), in the compressed (zipped) file attached to the record for this AD.
3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: Yaborã Indústria Aeronáutica S.A., Av. Brig. Faria Lima. 2170, 12227-901 São Jose dos Campos, SP Brazil, E-mail: continued.airworthiness@embraer.net.br.

