



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2025-10-01

Effective Date: 09 Oct. 2025

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. 2025-10-01 - (EMBRAER) / 39-1592.

APPLICABILITY: This Airworthiness Directive applies to Embraer aircraft models ERJ190-300 and ERJ190-400 equipped with Engine Feed Check Valve with Part Number (PN) L85E38-003.

CANCELLATION / REVISION: This AD cancels and supersedes the EAD No. E2025-07-03R1/ 39-1588, dated 04 August 2025, and is being issued to revise the interval of periodic functional tests for airplanes with less than 14,000 accumulated flight hours.

REASON: A failure of the Engine Feed Check Valve has been identified following an occurrence in which the messages FUEL FEED FAULT and ENG FUEL LO PRESS were displayed on the Crew Alerting System (CAS), indicating a failure in the main engine fuel feed system. These valves are part of the fuel system of Embraer ERJ190-300 and ERJ190-400 aircraft.

It was found that accelerated wear may occur in the Engine Feed Check Valve (dual butterfly check valve). This wear can lead to the disconnection of the butterfly valves of the same valve. Debris released from the disconnection of the butterfly valves may obstruct the fuel flow in the feed line, potentially causing engine flameout, as well as a failed-open condition of the valve, affecting the crossfeed function.

In case of an one engine inoperative (OEI) scenario and a failed-open condition of the Engine Feed Check Valve, the crossfeed operation may result in fuel being transferred from the side feeding the operating engine to the side affected by the butterfly valves disconnection, potentially leading to flameout of the operating engine due to fuel starvation.

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 mandate compliance with this EAD in the indicated time limit without prior notice.

REQUIRED ACTION: Inspection of the Engine Feed Check Valve or Functional Test of Fuel Crossfeed System.

COMPLIANCE: Required as indicated below, unless already accomplished.

(a) Inspection of the Engine Feed Check Valve or Functional Test of Fuel Crossfeed System

(1) For aircraft that have accumulated more than 14,000 flight hours (FH) as of 29 July 2025, the effective date of EAD E2025-07-03/39-1586, perform the left-hand (LH) and right-hand (RH) Engine Feed Check Valve Inspection, according to paragraph **(b)(1)** of this AD or the functional test, according to paragraph **(d)(1)** of this AD, before the next flight.

(2) For aircraft between 13,000 FH and 14,000 FH accumulated as of 29 July 2025, the effective date of EAD E2025-07-03/39-1586, perform the left-hand (LH) and right-hand (RH) Engine Feed Check Valve Inspection, according to paragraph **(b)(1)** of this AD or the functional test, according to paragraph **(d)(2)** of this AD, within the next 100 FH.

(3) For aircraft that have accumulated more than 11,900 FH and less than 13,000 FH as of 29 July 2025, the effective date of EAD E2025-07-03/39-1586, perform the left-hand (LH) and right-hand (RH) Engine Feed Check Valve Inspection, according to paragraph **(b)(1)** of this AD or the functional test, according to paragraph **(d)(3)** of this AD, within the next 100 FH.

(4) For aircraft that have accumulated up to 11,900 FH as of 29 July 2025, the effective date of EAD E2025-07-03/39-1586, perform the left-hand (LH) and right-hand (RH) Engine Feed Check Valve Inspection, according to paragraph **(b)(2)** of this AD before reaching 12,000 FH or the functional test, according to paragraph **(d)(3)** of this AD, upon reaching 12,000 FH.

(b) Initial Inspection of the Engine Feed Check Valve

(1) Perform the LH and RH Engine Feed Check Valve Inspection in accordance with the Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac.

(i) If no signs of scratches, deformation, or corrosion on the valve body; scratches, wear, corrosion, or deformation on the flaps; oxidation or deformation on the spring; or slack on the axle are found, no further action is required under this paragraph.

(ii) If any such signs are found, comply with paragraph **(e)(1)** of this AD before the next flight.

(2) Perform the LH and RH Engine Feed Check Valve Inspection in accordance with Service Bulletin SB190E2-28-0009, revision 04, dated 30 July 2025, or later revisions approved by Anac.

(i) If no signs of scratches, deformation, or corrosion on the valve body; scratches, wear, corrosion, or deformation on the flaps; oxidation or deformation on the spring; or slack on the axle are found, no further action is required under this paragraph.

(ii) If any such signs are found, comply with paragraph **(e)(2)** of this AD before the next flight.

(c) Repetitive Inspections

Repeat the inspections required by paragraph **(b)(1)** or **(b)(2)**, as applicable, every 10,000 FH.

(d) Functional Test of fuel crossfeed system

(1) Perform the functional test of fuel crossfeed system in the left and right wing tank, in accordance with Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac, before the next flight. Repeat the test at intervals not exceeding 24 hours for a maximum of 100 FH. After this period, perform the inspection of the Engine Feed Check Valve of both the left and right fuel supply systems, as specified in paragraph (b)(1) of this AD.

(i) If fuel tank weight increases less than 50 kg in the tested wing tank, return the system to its initial condition and put the aircraft back to a serviceable condition.

(ii) If fuel tank weight increases 50 kg or more in the tested wing tank, return the system to its initial condition and comply with paragraph (e)(1) of this AD before the next flight.

(2) Perform the functional test of fuel crossfeed system in the left and right wing tank, in accordance with Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac, before the next flight. Repeat the test at intervals not exceeding 24 hours for a maximum of 500 FH or until the aircraft logs 14,100 FH, whichever occurs first. After this period, perform the inspection of the Engine Feed Check Valve of both the left and right fuel supply systems, as specified in paragraph (b)(1) of this AD.

(i) If fuel tank weight increases less than 50 kg in the tested wing tank, return the system to its initial condition and put the aircraft back to a serviceable condition.

(ii) If fuel tank weight increases 50 kg or more in the tested wing tank, return the system to its initial condition and comply with paragraph (e)(1) of this AD before the next flight.

(3) Perform the functional test of fuel crossfeed system in the left and right wing tank, in accordance with Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac, before the next flight. Repeat the test at intervals not exceeding 07 days until the aircraft logs 13,000 FH. After the aircraft accumulates 13,000 FH, repeat the test at intervals not exceeding 24 hours for a maximum of 500 FH. After this period, perform the inspection of the Engine Feed Check Valve of both the left and right fuel supply systems, as specified in paragraph (b)(1) of this AD.

(i) If fuel tank weight increases less than 50 kg in the tested wing tank, return the system to its initial condition and put the aircraft back to a serviceable condition.

(ii) If fuel tank weight increases 50 kg or more in the tested wing tank, return the system to its initial condition and comply with paragraph (e)(1) of this AD before the next flight.

(e) Parts Replacement

(1) Perform the actions in paragraphs (e)(1)(i) or (e)(1)(ii):

(i) If you find damage and the check valve has all parts, replace the affected valve in accordance with Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac.

(ii) If you find damage in the check valve and the check valve has missing parts, replace the affected valve and inspect the affected fuel feed system (using a borescope, if necessary) for damage in the tube or other parts, in accordance with Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac. If any damage is found, contact Embraer.

(2) Perform the actions in paragraphs (e)(2)(i) or (e)(2)(ii):

(i) If you find damage and the check valve has all parts, replace the affected valve

in accordance with Service Bulletin SB190E2-28-0009, revision 04, dated 30 July 2025, or later revisions approved by Anac.

(ii) If you find damage in the check valve and the check valve has missing parts, replace the affected engine fuel feed check valve and perform an inspection of the affected fuel feed system (using a borescope, if necessary) for damage in the tube or other parts, in accordance with Service Bulletin SB190E2-28-0009, revision 04, dated 30 July 2025, or later revisions approved by Anac. If any damage is found, contact Embraer.

(f) Interim Action

This EAD is considered an interim action. Anac may consider further mandatory actions.

(g) Credit for Previous Actions

(1) Compliance with Service Bulletin SB190E2-28-0009, original issue, dated June 24, 2025; revision 01, dated June 27, 2025; or revision 02, dated July 8, 2025, is considered as accomplishment with the inspection required by paragraphs (b)(1) and (b)(2) of this EAD. The repetitive inspection required by paragraph (c) must be performed 10,000 FH after compliance with the aforementioned Service Bulletins.

(2) This paragraph provides credit for the actions required by paragraph (a) if those actions were performed before the effective date of this EAD using Alert Service Bulletin SB190E2-28-A010, original revision, dated 25 July 2025; or Service Bulletin SB190E2-28-0009, revision 03, dated 25 July 2025, as applicable

(h) Alternative methods of compliance (AMOCs).

(1) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (h)(1)(i) and (h)(1)(ii) of this AD apply.

(i) The steps labeled as RC, including sub steps under an RC step and any figures identified in an RC step, must be done to comply with this AD. If a step is identified as "RC Exempt," the RC requirement is not considered applicable to that step. An AMOC is required for any deviations to RC steps, including sub steps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including sub steps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

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

(h) Material Incorporated by Reference

Use the Alert Service Bulletin SB190E2-28-A010, revision 01, dated 31 July 2025, or later revisions approved by Anac; and Service Bulletin SB190E2-28-0009, revision 04 dated 30 July 2025, or later revisions approved by Anac, to perform the actions required by this AD, unless otherwise specified in this AD.

CONTACT:

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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).

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