**AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL**

# BRAZILIAN AIRWORTHINESS DIRECTIVE

**AD No.: 2019-06-01** **Effective Date: 17 Jun. 2019**

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.: 2019-06-01 - EMBRAER / 39-1442.

### APPLICABILITY:

This Airworthiness Directive applies to Embraer S.A. ERJ 190-100 STD, ERJ 190-100 LR, ERJ 190-100 IGW, ERJ 190-100 SR, ERJ 190-200 STD, ERJ 190-200 LR, and ERJ 190-200 IGW airplanes models, with serial numbers 19000001, 19000003, 19000004, and 19000006 thru 19000077.

### CANCELLATION / REVISION:

Not applicable.

### REASON:

It has been found the occurrence of structural cracks in the wing lower skin stringers between ribs 7 and 10 on both half wings. The cracks propagation on these wing lower skin stringers may result in fuel leakage and reduced wing structural integrity.

Since this condition may occur in other airplanes of the same type 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:

Inspection and rework, if necessary, of wing lower skin stringers.

### COMPLIANCE:

Do the actions required by this AD within the compliance times specified, unless the actions have already been done.

**(a) Initial inspection of both half wing lower skin stringers.**

**(1)** Before the airplane reaches 17,000 flight cycles (FC) or 27,000 flight hours (FH), whichever occurs first, carry out an Detailed Inspection (DET) on wing lower skin panels from spar 1 to spar 2 and from ribs 7 to rib 10, on pylon fairing region of right-hand side (RH) and left-hand side (LH), on external side of half wing main box for structural cracks and fuel leakage evidence.

**NOTE:** Observe that the typical fatigue crack is expected to originate at the stringers run out modified in accordance with ANAC AD 2008-01-02 requirements, which mandates Embraer Service Bulletin No. 190-57-0005, Rev. 01, or further revisions approved by ANAC; at wing lower skin under engine pylon lower link.

**(i)** In case of any evidence of fuel leakage, make sure the inspected area is free of structural cracks. Identify the area where there is a leakage and ensure it is not a prohibited area and that the leakage cannot go to a potential fire source. Refer to the applicable Aircraft Maintenance Manual (AMM) Chapter 28-11-00/600 for identification of prohibited areas and potential fire sources. If the fuel leakage is on prohibited area, or if the leakage could go to a potential fire source, conduct the appropriate leakage repair before the next flight.

**(ii)** In case of any signal of structural cracks in the inspected area, carry out a Special Detailed Inspection (SDI) - High Frequency Eddy Current (HFEC) at that specified area in order to confirm the damage extension. Refer to Task 51-06-00-250-801-A of Aircraft Non Destructive Test (NDT) Manual for instructions in performing the SDI. Repair the damage using a method approved in accordance with the paragraph (d) of this AD before the next flight.

**(2)** If the airplane has already reached the cycles or hours required by paragraph (a)(1) of this AD, carry out the required inspection before the airplane has accumulated the next 680 FC or 900 FH after the effective date of this AD, whichever occurs first.

**NOTE 1:** For purpose of this AD, a Detailed Inspection (DET) is an intensive examination of a specific item, installation or assembly to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses, etc. may be necessary. Surface cleaning and elaborate access procedures may be required.

**NOTE 2:** For purpose of this AD, a Special Detailed Inspection (SDI) is an examination of a specific item, installation, or assembly making use of specialized inspection techniques such as Non Destructive Testing (NDT) and/or equipment (e.g. boroscope, videoscope, tap test) to detect damage, failure or irregularity. Intricate cleaning and substantial access or disassembly procedure may be required. Classification of a task as an SDI does not define the required qualifications for the person performing the task.

**(b) Repetitive inspection of both half wing lower skin stringers.**

**(1)** Repeat the inspections required by paragraph (a)(1) of this AD at intervals less than or equal to 680 FC or 900 FH, whichever occurs first.

**(c) Reference service instructions.**

**(1)** To access the inspected area required by the paragraphs (a) and (b) this AD, refer to the applicable AMM Chapter 54-50-21/400 (Engine Pylon Forward Fairings – Removal/Installation), Chapter 54-50-22/400 (Engine Pylon Side Fairings - Removal/Installation) and Chapter 54-50-23/400 (Engine Pylon Aft Fairings - Removal/Installation).

**(d) Alternative method of compliance (AMOC).**

**(1)** A different method or a different compliance time, with the 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).

Record compliance with this AD in the applicable maintenance log book.

**CONTACT:**

For additional technical information, contact:

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**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).