



## 適航指令發布單

### Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2022-12-008	發布日期 Date issued	2022/12/20
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	Model 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 in operation. and Model 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, with serial numbers 19000001, 19000003, 19000004, and 19000006 thru 19000077.		
主旨摘要 Subject	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 to preclude the Widespread Fatigue Damage (WFD).		
<div style="text-align: center;">民航局 CAA</div> <input type="checkbox"/> 本國產品 Native product  <input type="checkbox"/> 其他個案 Other	<div style="text-align: center;">設計國民航主管機構 Original Authority</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> FAA  <input type="checkbox"/> EASA  <input checked="" type="checkbox"/> Brazil  <input type="checkbox"/> Transport Canada Civil Aviation  <input type="checkbox"/> DGAC         </div> <div style="width: 45%;"> <input type="checkbox"/> Germany LBA  <input type="checkbox"/> CAA-NL  <input type="checkbox"/> UK CAA  <input type="checkbox"/> Japan CAB  <input type="checkbox"/> CAA of Israel  <input type="checkbox"/> Other _____         </div> </div>		
	設計國 AD 編號 Original AD number	2022-12-01	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	ATA 57. Ref. Embraer 190/195 Maintenance Review Board Report, MRB 1928, Revision 14, dated July 24, 2020, and the Embraer SB N.190-57-0056, Original Revision, dated December 05, 2019, or further revisions of these documents approved by ANAC.		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6330 / 6332, Fax： (02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

## BRAZILIAN AIRWORTHINESS DIRECTIVE

**AD No.: 2022-12-01**

**Effective Date: 14 Dec. 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. 2022-12-01 - EMBRAER / 39-1504.**

#### **APPLICABILITY:**

(a) This Airworthiness Directive (AD) applies to Embraer S.A. airplanes, as specified in paragraphs (a)(1) and (a)(2) of this AD.

(1) Model 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 ERJ190-200 IGW in operation.

(2) Model 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 ERJ190-200 IGW, with serial numbers 19000001, 19000003, 19000004, and 19000006 thru 19000077.

**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 (e) 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:**

Not applicable.

#### **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.**

For the airplanes identified in paragraph (a)(1) of this AD, within 30 days 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) Incorporate the information in Part 2, Airworthiness Limitation Inspections – Structures, in Appendix A, Airworthiness Limitations, of the Embraer 190/195 Maintenance Review Board Report, MRB 1928, Revision 14, dated July 24, 2020.

(2) The compliance times depend on the airplane configuration, and the pre-modification and post-modification conditions specified in Part 2, Airworthiness Limitation Inspections – Structures, in Appendix A, Airworthiness Limitations, of the Embraer 190/195 Maintenance Review Board Report, MRB 1928, Revision 14, dated July 24, 2020.

(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 190/195 Maintenance Review Board Report, MRB 1928, Revision 14, dated July 24, 2020. 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) For the airplanes identified in paragraph (a)(2) of this AD, 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 (FC) or Flight Hours (FH) for each modification as established in the column "SMP – applicable intervals" of the same table.

**Table 01 – Structural Modification Point and associated Service Documents.**

Modification.	Applicable service document.	SMP – applicable intervals.
Right Hand-RH and Left Hand-LH Wing Lower Skin Panel Reinforcement.	Embraer SB Nº 190-57- 0056, Original issue, dated December 05, 2019, or further revisions approved by ANAC.	<p>1) For airplanes which, on the effective date of this AD, have accumulated 23,265 FC or less and 37,903 FH or less, after the accomplishment of the Embraer SB Nº 190-57-0005, Revision 01, dated October 27, 2006, mandated by ANAC AD 2008- 01-02, before accumulating 26,265 FC or 41,903 FH, whichever occurs first.</p> <p>2) For airplanes which, on the effective date of this AD, have accumulated more than 23,265 FC or more than 37,903 FH after the accomplishment of the Embraer SB Nº 190-57-0005, Revision 01, dated October 27, 2006, mandated by ANAC AD 2008-01-02, in the following intervals, whichever occurs first:</p> <p>i) Within the next 3,000 FC or before 26,265 FC after the accomplishment of the Embraer SB Nº 190-57-0005, Revision 01, dated October 27, 2006, mandated by ANAC AD 2008-01-02, whichever occurs later.</p> <p>ii) Within the next 4,000 FH or before 41,903 FH after the accomplishment of the Embraer SB Nº 190-57-0005, Revision 01, dated October 27, 2006, mandated by ANAC AD 2008-01-02, whichever occurs later.</p>

(2) For airplanes identified in paragraph (a)(2) of this AD which, on the effective date of this AD, have exceeded the applicable FC and FH specified in the “LH and RH Wing Lower Skin Panel – Reinforcement” modification of the **Table 01** of this AD, these airplanes must be modified within the next 3,000 FC or 4,000 FH, whichever occurs first, after the equivalent “SMP - applicable intervals” of the **Table 01** of this AD.

**(d) Terminating action.**

The accomplishment of paragraph (c)(1) or (c)(2) of this AD, as applicable, constitutes a terminal action for the repetitive inspections mandated by paragraph (b) of ANAC AD 2019-06-01.

**(e) Alternative methods of compliance (AMOCs).**

(1) 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.

(2) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (e)(2)(i) and (e)(2)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under a RC step and any figures identified in a RC step, must be done to comply with the AD. If a step or substep is labeled “RC Exempt,” then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps 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 substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(f) Material incorporated by reference.**

You must use the Appendix A, Airworthiness Limitations, of the Embraer 190/195 Maintenance Review Board Report, MRB 1928, Revision 14, dated July 24, 2020, and the Embraer SB N.190-57-0056, Original Revision, dated December 05, 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:

National Civil Aviation Agency (ANAC)  
Continuing Airworthiness Technical Branch (GTAC)  
Rua Doutor Orlando Feirabend Filho, nº 230  
Centro Empresarial Aquário - Torre B - 14º ao 18º andares  
Parque Residencial Aquário  
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  
Airworthiness Department (SAR)  
ANAC

**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).