AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2023-01-01 **Effective Date: 18 Jan. 2023**

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. 2023-01-01 - EMBRAER / 39-1511.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer S.A. airplanes model ERJ190-300 and ERJ 190-400.

CANCELLATION / REVISION:

Not applicable.

REASON:

It has been identified, during simulations, analysis, and a field event of the airplane that a stall warning system activation (Stick Shaker) and Angle of Attack (AoA) limiter engagement may occur in certain vertical gust conditions with specific intensity and frequency, which combined with some weight, speed, and aerodynamic configurations; may cause a nose up movement of the airplane after the Stick Shaker activation, which may induce an unexpected airplane response affecting its controllability.

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:

Airplane Flight Manual (AFM) amendment.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) AFM amendment.

Within 30 days after the effective date of this AD, revise the **SECTION 2**

- LIMITATIONS of the applicable AFM to introduce the following minimum operating speeds.

SECTION 2 – LIMITATIONS - OPERATIONAL LIMITATIONS – MINIMUM OPERATING SPEEDS.

During flight at moderate or severe turbulence conditions, or if these conditions can be anticipated, the following operating speeds must apply.

MINIMUM CLEAN SPEED (KIAS) - SLAT/FLAP/GEAR UP

NO ICE ACCRETION							
ALTITUDE (ft) / WEIGHT	0	5000	10000	15000	20000	25000	30000
44000 kg (97000 lb) or less	200	200	210	220	230	230	230
49000 kg (108000 lb)	210	210	220	230	235	235	235
54000 kg (119000 lb)	225	225	235	240	240	240	240
58000 kg (127868 lb)	230	230	240	245	245	245	245
62000 kg (136500 lb)	250	250	250	250	250	250	250
WITH ICE ACCRETION							
ALTITUDE (ft) / WEIGHT	0	5000	10000	15000	20000	25000	30000
44000 kg (97000 lb) or less	220	220	220	230	230	230	230
49000 kg (108000 lb)	230	230	230	230	235	235	235
54000 kg (119000 lb)	235	235	235	240	240	240	240
58000 kg (127868 lb)	245	245	245	250	250	250	250
62000 kg (136500 lb)	250	250	250	260	260	260	260

Note 1: Transient accelerations (such as those developed during takeoff phase or go around procedures) or transient decelerations (such as those developed during approach and landing flight phases) between the minimum clean speeds established in this AD and flap/slat position No. 1 retraction or extension speed is acceptable.

Note 2: For landing with slat/flap FULL, the V_{AP} is limited to a minimum of V_{REF} + 5kt and a maximum of V_{REF} + 20 kt, and the V_{AP} must be determined based on the V_{REF} considering the wind corrections such that:

$V_{AP} = V_{REF}$ + 1/2 steady headwind component + gust increment

Note 3: In case of any emergency or abnormal procedure requires the airspeed to be maintained at a value below the ones defined in the MINIMUM CLEAN SPEED table, the emergency and abnormal procedure limitation has precedence over the limitation defined in MINIMUM CLEAN SPEED table.

NOTE: Inserting a copy of this AD in the applicable AFM is an acceptable method to comply with the COMPLIANCE paragraph requirements of this AD.

(b) 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.

(c) Material incorporated by reference.

For your reference, you may consult the Embraer Operational Bulletin (OB) N.190E2-001/22, Revision 01, dated January 04, 2023.

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).