



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2021-05-01R1

Effective Date: 23 Mar. 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. 2021-05-01R1 - EMBRAER / 39-1517.

APPLICABILITY:

This Airworthiness Directive is applicable to Embraer – Empresa Brasileira de Aeronáutica S.A. airplanes models ERJ190-300 and ERJ190-400 that have installed the hydraulic system #3 main alternating current motor pump (ACMP 3A) with Part Number (P/N) 3033041-101 and/or that possess AFM (Aircraft Flight Manual) revisions prior to the one below:

- AFM-5691, Revision 12, dated 14 Jun. 2021.

CANCELLATION / REVISION:

This AD cancels and substitute AD 2021-05-01, amd. 39-1480, with effectivity date 14 May. 2021, and is being issued to introduce alterations in the AFM procedures and to include a terminal action.

REASON:

It has been found the occurrence of premature failures of the hydraulic system ACMP 3A with PN 3033041-101 in Embraer – Empresa Brasileira de Aeronáutica S.A. airplane models ERJ190-300 and ERJ190-400. The ACMP tail bearing has exhibit excessive wear, which, if allowed to progress, increases the probability of ACMP failures. In certain conditions the tail bearing wear may lead to failures that result in loss of hydraulic system #3 and may affect the electrical power distribution system. This condition, considering the combination with an independent failure in one engine, contributes to an unacceptable increase in the likelihood of a failure condition that may lead to loss of control of the aircraft.

After AD 2021-05-01 was issued Embraer has developed a new PN (3033041-102) more robust for the ACMP in order to eliminate the failure mode observed with PN 3033041-101.

Since this condition may occur in other airplane 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:

For the reasons described above, this AD requires the repetitive replacement of the hydraulic system ACMP 3A (PN3033041-101), the adoption of an

updated AFM and, as a terminal action for the repetitive replacement of the ACMP 3A, its substitution for a different PN.

COMPLIANCE:

Required as indicated below, unless already accomplished.

Repetitive replacements

(a) Within 300 flight hours after 14 May of 2021 (the effective date of AD 2021-05-01) or before the hydraulic system ACMP 3A with PN 3033041-101 accumulates 2,700 flight hours, whichever occurs later, replace the hydraulic system ACMP 3A with a serviceable one (see Notes 1 and 3). Repeat the action required by this paragraph before the hydraulic system ACMP 3A with PN 3033041-101 accumulates 2,700 flight hours.

Note 1: If it is not possible to determine the accumulated flight hours of part with PN 3033041-101, this part shall not be considered a serviceable part (see Note 3) for the replacement required in paragraph (a) of this AD.

Note 2: It is recommended to return the removed components to Embraer - Empresa Brasileira de Aeronáutica S.A. for additional investigation of this issue.

Note 3: For the intent of this Airworthiness Directive, it is considered a serviceable ACMP 3A:

(i) ACMP 3A approved for use, as published in the AIPC, with a different PN of 3033041-101;

(ii) ACMP 3A with PN 3033041-101 that have accumulated time since new less than 2,700 flight hours;

(iii) ACMP 3A with PN 3033041-101 that have accumulated less than 2,700 flight hours since the last detailed inspection in which the tail bearing has been replaced; or

(iv) An ACMP 3B, PN 3033041-101, as long as it can be determined not having been previously installed in the ACMP 3A position.

Note 4: The requirement to replace the ACMP with PN 3033041-101 is applicable only to the ACMP 3A. There is no requirement associated to the ACMP 3B operation.

AFM alteration (models ERJ190-300 and ERJ190-400)

(b) For aircraft models ERJ190-300 and -400, within 30 after the effectivity date of this AD, update the AFM-5691 incorporating the Revision 12, dated 14 Jun. 2021, or later approved revisions, in the operation of the aircraft.

Terminal action

(c) A hydraulic system #3 main alternating current motor pump (ACMP 3A) with a PN different from 3033041-101, while it is installed in the aircraft at position 3A, is not required to be repetitively replaced as required by paragraph (a) of this AD for aircraft models ERJ190-300 and -400.

Reference publications

(d) Embraer Service Bulletin SB190E2-29-0003, Original Revision, dated

29 Jul. 2022, or Revision 1, dated 23 Dez. 2022, or later revisions approved by ANAC.

(e) AFM-5691, Revision 12, dated 14 Jun. 2021, or later approved revisions.

Note 5: The correspondent to ANAC AFMs are AFM-5693 (EASA), Revision 14, dated 14 Jun. 2021; and AFM-5692 (FAA), Revision 7, dated 14 Jun. 2021.

Alternative Means of Compliance (AMOC)

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 (Gerência Técnica de Aeronavegabilidade Continuada - GTAC).

CONTACT:

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APPROVAL:

Original in Portuguese language available at the Continuing Airworthiness Technical Branch (GTAC) of the National Civil Aviation Agency (ANAC). Signed by:

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ANAC