

Sektion 2. Utlandstillverkad flygmateriel

RI

TITEL: Byte / kontroll av klaffdomkraft

GÄLLER: EMB 110 alla S/N med installerade klaffdomkrafter P/N D-2246-3, D-2246-4, D-2246-31, D-2246-41, D-2246-5 och D-2246-6.

ÅTGÄRD: Inför inspektionsåtgärderna (Part I och Part II) i Aircraft Maintenance Manual i enlighet med bifogad kopia av CTA DDA 82-07-04R3.

Utför inspektionerna enligt Part I och Part II.

TID FÖR ÅTGÄRD:

1) Utför inspektion Part I i enlighet med CTA DDA 82-07-04R3 vid varje 1500 landningar eller 12 månader vilket som först inträffar.

2) Utför inspektion Part II i enlighet med CTA DDA 82-07-04R3 vid varje 4500 landningar efter 36 månader vilket som först inträffar.

UNDERLAG: CTA DDA Nr 82-07-04R3 eller senare utgåva.

REFERENS: CTA DDA Nr 82-07-04R3.

UTGIVNINGS-DATUM: 1992-01-30

LFS: 1992:2

Åtgärd enligt LVD utgör nödvändig förutsättning för ifrågavarande flygmateriels luftvärdighet. Referens BCL M 1.11. Anteckning om åtgärd, som vidtagits i enlighet med LVD, skall införas i teknisk journal för berörd flygmateriel med hänvisning till ifrågavarande LVD-nummer. Angivet underlag refererar till senaste gällande revision/utgåva. LVD utges i luftfartsverkets författningssamlingar LFS.



MINISTÉRIO DA AERONÁUTICA
DEPARTAMENTO DE AVIAÇÃO CIVIL

DIRETRIZ DE AERONAVEGABILIDADE

EFETIVIDADE:
DEC 10, 1991

DA Nº 82-07-04R3

The following Airworthiness Directive (AD), developed by the Centro Técnico Aeroespacial (CTA) and issued by the Departamento de Aviação Civil (DAC) in accordance with provisions of Chapter IV, Title III of Código Brasileiro de Aeronáutica - Ministerial Decree NR 7,565 as of 19 December 1986 - and Regulamento Brasileiro de Homologação Aeronáutica (RBHA) 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 NR 82-07-04R3 - EMBRAER - Amdt 39-691

APPLICABILITY:

This AD is applicable to all aircraft EMB-110 and EMB-121 equipped with flap linear actuators EEMCO P/N D-2246-3, D-2246-4, D-2246-31, D-2246-41, D-2246-5 and D-2246-6.

CANCELLATION/REVISION:

This AD supersedes AD 82-07-04R2, Amdt 39-678, dated August 5, 91.

This AD is being revised to remove from Note of paragraph "COMPLIANCE" flap linear actuators P/N D-2246-31 and D-2246-41 and to remove the manuals numbers referred in this same paragraph.

REASON:

It has been found a collapse of the flap linear actuator EEMCO P/N D-2246-4 installed in a EMB-110 aircraft probably as a result of a deterioration and excessive wear of the plastic strip P/N A12139 and preformed packing P/N A12010 allowing infiltration of moisture in the actuator provoking corrosion of the jack screw, ball screw and the ball return tube culminating with the loss of the balls, due to failure of the ball return tube. Occurred this collapse there was a retraction of the flap, caused by aerodynamic load, remaining the other flap extended and unable to be retracted due to the asymmetry detector system of the aircraft, thus affecting the safety of flight.

The new actuators P/N D-2246-5, D-2246-6, D-2246-31 and D-2246-41 were developed by EEMCO in order to eliminate this kind of problems, and its incorporation until the limite date of 03/31/83 was required through the original issue of this AD.

Since this condition can affect flight safety and develop in other airplanes of the same type, immediate corrective action is required. Thus, sufficient reason exists to issue this AD, without prior notice.

REQUIRED ACTION:

To introduce procedures of inspection of the flap linear actuators in the aircraft maintenance manuals.

COMPLIANCE:

Compliance is required as follows:

Include the procedures of inspection (Parts I and II), defined as follows, in the Aircraft Maintenance Manuals.

These inspections must be carried out at each 1500 landings or 12 months, whichever occurs first for the Part I and at each 4500 landings or 36 months, whichever occurs first for the Part II.

N O T E

No flap linear actuator EEMCO P/N D-2246-3 and D-2246-4 may be installed in aircraft.

INSPECTION PROCEDURES APPLICABLE TO THE FLAP LINEAR ACTUATOR EEMCO P/N D-2246-31, D-2246-41, D-2246-5 AND D-2246-6 TO BE INCLUDED IN THE MAINTENANCE MANUALS.

PART I

1. Carry out an inspection of the linear actuators for:

- a. General condition, cleanness, evidence of rust, loose balls or evidence of metallic particles on the jack screw.
- b. Free and uniform movement of the jack screw.
- c. Absence of lengthwise play in the jack screw. This play must remain practically unchanged and not perceptible to hand touch throughout the actuator service life.
- d. The transversal play of the ball nut and jack screw assembly sensed at the flap attachment lug should not exceed 5mm in any position of the jack screw (extended in the middle of the course and retracted).
- e. General condition of ball nut, its attachment to the main carrier tube and safety of the balls return cover in the actuators of P/N D-2246-5, D-2246-6, D-2246-31 and D-2246-41.
- f. General condition and snug seating of the EEMCO plastic strip P/N A12139 and preformed packing P/N A12010.

2. Lubricate the flap actuator:

- a. Introducing grease MIL-G-23827 in the reduction box.
- b. Brush-daubing the jack screw with grease MIL-G-23827.

3. Clean the main carrier tube, remove completely any grease from it.
4. Adjust the flap control system in order to ascertain that the linear actuator mechanical stop will never be contacted before the actuating motor has stopped. The actuating motor stop should be contacted at a minimum allowance before the linear actuator contacts its mechanical stop of 1/4 turn for linear actuator P/N D-2246-31 and D-2246-41, and of 1/2 turn for the P/N D-2246-5 and D-2246-6. Otherwise, the flexible shaft or the linear actuator may be fully and/or partially damaged.
5. Align the flaps.
6. Carry out an operational check of the flaps and, if necessary, adjust the asymmetry detection system.

PART II

1. At each 4500 landings, remove the flap linear actuator.
2. Carry out the item 1 of the Part I.
3. Carry out an inspection of the gear and worm in accordance with the instructions contained in the Component Maintenance Manual With Illustrated Parts List nº 27-53-02 of EEMCO, as described below:
 - a. Remove the five screws holding gear case cover to gear case.
 - b. Carefully withdraw all components from gear case in one unit (Do not separate top bearing, shims, retaining rings, etc from main tube).
 - c. Remove gear from gear case; do not lose key.
 - d. Inspect gear and worm for wear. If these items are in serviceable condition replace all components in the exact order in which they had been removed. Care must be taken to re-install key which might fall into the lubricant in the bottom of the gear box.
 - e. Refill gear box to approx. 90% full with MIL-G-23827.
 - f. Re-install cover of gear box with 5 screws.
4. Carry out the items 2.b, 3, 4, 5 and 6 of Part I.

Make the proper log book entry that this AD has been complied with.

CONTACT:

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EFFECTIVE DATE:

This AD (NR 82-07-04R3, Amdt 39-691), becomes effective on
DEC 10, 1991.

Original in Portuguese signed by:

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