

Sektion 2. Utlandstillverkad flygmateriel

**TITEL:** Kontroll av trimstötstänger / sprickundersökning / förstärkning av främre höjdroderbalk och installation av dubbla trimstötstänger för höjdroder.

**GÄLLER:** Embraer modell EMB-110.

Part I: S/N 110001 t o m 110428

Part II: S/N 110001 t o m 110401, 110403 t o m 110412, 110414 t o m 110423, 110425 t o m 110428 (som ej har infört SB 110-027-0068)

**ÅTGÄRD:** Utför åtgärder i enlighet med bifogad kopia av CTA DDA Nr 82-06-01R8 och EMBRAER Service Bulletin 110-027-0060 Rev 2 eller senare av CTA godkänd utgåva.

**TID FÖR ÅTGÄRD:**

- 1) Vid varje 300 flygtimmar eller 2 månader vilket som först inträffar tills part 2) nedan blir utförd.
- 2) Inom 1500 flygtimmar eller 8 månader vilket som först inträffar utför modifiering enligt EMBRAER Service Bulletin 110-027-0060 Rev 2 eller senare av CTA godkänd utgåva.

Not: Luftfartsinspektionen förutsätter att förstärkning av höjdroderbalken är utförd vid 1000 flygtimmar.

**UNDERLAG:** CTA DDA Nr 82-06-01R8.  
EMBRAER Service Bulletin Nr 110-027-0060 Rev 2  
EMBRAER Service Bulletin Nr 110-027-0068 Rev 1 eller senare av CTA godkända utgåvor.

**REFERENS:** CTA DDA Nr 82-06-01R8.

**UTGIVNINGS-DATUM:** 1991-10-03

**LFS: 1991:23**

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:

AGO 23, 1991

DA Nº

82-06-01R8

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 82-06-01R8 - EMBRAER - Amendment 39-681

## APPLICABILITY:

This AD is applicable to EMB-110 "BANDEIRANTE" aircraft serial numbers:

Part I - 110001 thru 110428

Part II - 110001 thru 110401, 110403 thru 110412, 110414 thru 110423, 110425 thru 110428, which have not complied with EMBRAER Service Bulletin 110-027-0068.

## CANCELLATION/REVISION:

This AD supersedes AD NR 82-06-01R7 - Amdt 39-631, dated February 19, 1990.

This AD is being revised to impose a final action to the control rods of the aileron and rudder trim tab control system, to the actuator eyelets, to the aileron trim tab bellcrank, as agreed in the EMB-110 Aging Conference held at EMBRAER between 20 and 26 March 1991.

## REASON:

It has been found jamming of the bearing installed in the EMB-110 flight control trim tab assemblies, which inclusive has caused one in-flight rupture of the terminal of the control rod in the right elevator trim tab. Because of this, the trim tab became free and produced a strong vibration and difficulty to control the aircraft. It has been found, cases of cracks in the elevator spar in the trim tab actuator support attaching holes area, which may provoke the same situation as above mentioned.

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:

Inspection of the bearings of the control rods of the aileron

and rudder trim tab control system, as well as a mandatory replacement of the control rods of the aileron and rudder trim tab control systems, in inspection of the actuator eyelets and the aileron trim tab bellcrank.

. Installation of the dual rods of the elevator trim tab control systems and replacement of the eyelet of the respective actuator.

. Inspection and repair of the elevator spar.

#### COMPLIANCE:

Compliance is required as follows:

#### PART I - INSPECTION

1) Carry out the inspections as indicate below of the terminals of the control rods of the aileron and rudder trim tab systems, at each 300 operating hours or two months, whichever occurs first, in continuation of the inspections already established in prior revisions of this AD, up to embodiment of the final action prescribed in paragraph 2 of Part I of this AD.

Inspect for jamming, general condition and safety all the bearings installed in the control rods of the rudder and aileron trim tab control systems, as well as those installed in their actuator eyelets and aileron trim tab bellcrank.

The inspection for jamming must be accomplished with the bearing attachment bolts disconnected.

A subjective evaluation by the mechanic is acceptable as an inspection procedure. In this case the bearing is considered in good condition if it could be movable by a normal effort finger touch.

An objective evaluation may be made by means of a proper torque wrench and it should correspond to a torque between 0.5 lbxin and 3.0 lbxin (6.0 and 35.0 kgxmm) for bearings P/N SBS6ATC18Z and 0.25 lbxin and 5.0 lbxin (3.0 and 60.0 kgxmm) for bearings P/N SBS6ATH18M.

If the torque value checked exceed the previously specified values, a bearing breaking-in may be performed by means of forced rotation, by coupling a low rotation drill to the inner bearing race. The bearings should be moved in all directions. This procedure must be performed in alternate periods of rotation and rest so as to avoid too high temperatures.

The bearings temperature should not exceed 121°C (250°F) for bearings P/N SBS6ATC18Z and 163°C (325°F) for bearings P/N SBS6ATH18M and water should be used as cooling element.

If any irregularity is found, remove and discard the affected part, replacing it by a new part of the same P/N or by a part of a new P/N, as prescribed in EMBRAER Service Bulletin 110-027-0060, Rev 2 or later CTA approved revision.

2) Within the next 1500 operating hours or 8 months, whichever occurs first, after the effective date of this Revision 8, carry out the modifications of the control rods of the aileron and rudder trim tab system in accordance with the EMBRAER Service Bulletin 110-027-0060, Rev 2 or later CTA approved revision. After the embodiment of this modification, the

repetitive inspections prescribed in the paragraph (1) must be discontinued.

3) The embodiment of the modifications of the aileron and rudder control trim tab systems prescribed in the EMBRAER SB 110-027-0060 Rev 2 or later CTA approved revision, for the operators which have embodied spontaneously the Revision 1 of the EMBRAER SB 110-027-0060 must have already been accomplished in accordance with the period time established in the item (2)(b) of the Part I of the Revision 6 of this AD.

4) The embodiment of the modifications of the elevator control trim tab system prescribed in the EMBRAER SB 110-027-0068 Revision 1 or later CTA approved revision must have already been carried out in accordance with the period time established in the item (4) of the Part I of the Revision 6 of this AD.

#### PART II - REPAIR OF THE ELEVATOR SPAR

The time for the accomplishment of the reinforcement of the elevator spar expired on May 25, 1984.

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

#### CONTACT:

For additional information, contact:

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#### EFFECTIVE DATE:

This AD (NR 82-06-01R8 - Amdt 39-681) becomes effective on Ago 23, 1991.

Original in Portuguese signed by:

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Note: The Revision 7 of this AD was not published in English language.