AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/EMB-120/49 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Embraer EMB-120 (Brasilia) Series Aeroplanes

AD/EMB-120/49 Fuel Quantity Indication System 10/2009
Amdt 1 DM

Applicability: EMB-120, EMB-120RT, EMB-120ER, EMB-120FC and EMB-120QC model aeroplanes.

Requirement:

1. With at least 400 kg (882 lb) of fuel in each tank perform task number 28-42-00, from one of the EMB-120 AMM listed in Table 1 below, to determine the real fuel quantity on each tank using the dripless measuring sticks. Compare the results of the fuel quantity measured with the master indicator and repeater indicator readings for each tank. If the difference of the indicated fuel quantity is 60 kg (132 lb) or less, no further action is necessary.

2. If the difference of the indicated fuel quantity is greater than 60 kg (132 lb), accomplish the following:

   a. If the difference is greater than 60 kg (132 lb) on both tanks, correct the Fuel Quantity Indication System (FQIS) indication.

   b. If the difference is greater than 60 kg (132 lb) on only one tank, correct the FQIS indication.

3. If the conditions listed in the compliance statement for Requirement 2.b. are not met, correct the FQIS indication.

Table 1 - EMB 120 AMM Task Reference

Task Reference Number	Maintenance Manual Publication Number	Task Title	Task Revision Date
28-42-00/001	MM120/1459 MM120BAS/718 MM120CAL/921 MM120DLT/724 MM120TEX/880	Fuel Quantity Measuring Sticks Assembly - Description and Operation	30 July 2004
	OTFN 1VC97-2	Sistema Mecânico de Indicação de Quantidade de Combustível - Descrição e Operação	Page 1 - 23 October 1986 Page 2 and on - 8 October 1987

Embraer EMB-120 (Brasilia) Series Aeroplanes

AD/EMB-120/49 Amdt 1 (continued)

Note 1: ANAC AD 2009-07-04 refers.

Compliance: For Requirement 1 - Within the next 600 hours time in service (TIS) or 180 days after the effective date of the original issue of this Directive, whichever occurs first and thereafter at intervals not exceeding 600 hours TIS or 180 days, whichever occurs first.

Note 2: If the initial inspection was accomplished in accordance with Requirement 1 of the original issue of this Directive then the timing for the repetitive inspections starts on the date when the initial inspection was completed.

For Requirement 2.a. - Before the next flight after the Requirement 1 functional check.

For Requirement 2.b. - Within 10 days after the Requirement 1 functional check, provided that condition a. b. and c. below are met.

a. After each refuelling, determine the real fuel quantity in the tank with the inoperative indicator in accordance with the procedure in Requirement 1; and

b. Both fuel flow indicators are operating properly; and

c. Fuel used or fuel remaining functions of the totalizer are operating properly.

For Requirement 3 - Before the next flight after the Requirement 1 functional check.

This Amendment becomes effective on 27 August 2009.

Background: The Brazilian Agência Nacional de Aviação Civil (ANAC) has advised it has been found that some fuel quantity probes may fail during the aeroplane life leading to an erroneous fuel quantity indication to the crew. This erroneous indication may lead to the aeroplane being operated with less fuel than indicated which may lead to an uncommanded in-flight shutdown of one or both engines due to fuel starvation.

This amendment corrects a typographical error in the numbering of the Compliance statements.

The original issue of this Directive became effective on 27 August 2009.

James Coyne
Delegate of the Civil Aviation Safety Authority

12 August 2009