## AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

# BRAZILIAN AIRWORTHINESS DIRECTIVE

**AD No.: 2013-12-02** **Effective Date: 27 Dec. 2013**

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. 2013-12-02 - EMBRAER/ 39-1378.**

**APPLICABILITY:**

This Airworthiness Directive (AD) applies to Embraer S.A. model EMB-135BJ airplanes; all serial numbers.

**Note:** This AD requires revisions to certain operator maintenance documents to include new inspections tasks or modification of existing ones and their respective thresholds and intervals. Compliance with these inspections is required by Regulamento Brasileiro de Homologação Aeronáutica (RBHA) 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the described inspections. In this situation, to comply with RBHA 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (c) of this AD. The request should include a description of changes to the required inspections that will ensure the continued operational safety of the airplane.

**CANCELLATION / REVISION:**

Not applicable.

**REASON:**

This AD was prompted by a new revision to the Airworthiness Limitations Requirements of the Maintenance Planning Guide (MPG-1483). We are issuing this AD to allow timely detection and correction of fatigue cracking of various structural elements, and to allow the necessary preclusion of ignition sources in the fuel system.

**REQUIRED ACTION:**

Revision of the maintenance or inspection program.

**COMPLIANCE:**

Required as indicated below, unless already accomplished.

**(a) Revision of Maintenance or Inspection Program**

(1) Within 60 days after the effective date of this AD, revise the maintenance or the inspection program by incorporating the inspection tasks with the thresholds and intervals stated in Table 1 of this AD. The compliance times depend on the pre-modification and post-modification condition of Embraer service bulletins (SB) specified in Table 1 of this AD. The initial compliance times for the tasks specified in Table 1 of this AD start from the applicable threshold times specified in Table 1 of this AD, or within 500 flight cycles (FC) after the effective date of this AD, whichever occurs later.

(2) Within 60 days after the effective date of this AD, revise the maintenance or inspection program by incorporating the changes to the Critical Design Configuration Control Limitation (CDCCL) stated in Table 2 of this AD.

(3) Within 60 days after the effective date of this AD, revise the maintenance or inspection program by incorporating the new fuel system limitations stated in Table 3 of this AD**.**

**Note**: The revisions requested in paragraphs (a)(1), (a)(2) and (a)(3) of this AD are identified in Embraer Temporary Revisions (TR) 8-1, 8-2 and 8-3 to the Embraer Legacy BJ Maintenance Planning Guide, MPG-1483.

**Table 1 – New Inspection Interval Limits**

| SSI | ZONE | TYPE | SIDE | TASK | EFFECT | Pre-Mod SB 145LEG-00-0007 | | Pos-Mod SB 145LEG-00-0007 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Fatigue Threshold Limit (Flight Cycles) | Inspection Interval Limit (Flight Cycles) | Threshold Interval Limit (Flight Cycles) | Inspection Interval Limit (Flight Cycles) |
| 53-10-20 PRE-MOD SB 145LEG-53-0030 | 223/224 | SDE | EXT | 53-12-00-250-805-L00 | L600 | 7000 | 10000 | – | – |
| 53-10-20 PRE-MOD SB 145LEG-53-0030 | 223/224 | SDE | EXT | 53-12-00-250-806-L00 | L600 | – | – | 6000 | 6212 |
| 53-10-20 PRE-MOD SB 145LEG-53-0030 | 223/224 | SDE | INT | 53-12-00-250-807-L00 | L600 | 7000 | 3151 | – | – |
| 53-10-20 PRE-MOD SB 145LEG-53-0030 | 223/224 | SDE | INT | 53-12-00-250-808-L00 | L600 | – | – | 6000 | 1969 |
| 53-10-20 PRE-MOD SB 145LEG-53-0030 | 223/224 | SDE | EXT | 53-12-00-250-806-L00 | L650 | – | – | 6000 | 6212 |
| 53-10-20 PRE-MOD SB 145LEG-53-0030 | 223/224 | SDE | INT | 53-12-00-250-808-L00 | L650 | – | – | 6000 | 1969 |
| 53-10-20 POST-MOD SB 145LEG-53-0030 | 223/224 | SDE | EXT | 53-12-00-250-809-L00 | L600 | 6915 | 3247 | | |
| 53-10-20 POST-MOD SB 145LEG-53-0030 | 223/224 | SDE | EXT | 53-12-00-250-810-L00 | L600 | – | – | 4170 | 2011 |
| 53-10-20 POST-MOD SB 145LEG-53-0030 | 223/224 | SDE | EXT | 53-12-00-250-810-L00 | L650 | – | – | 4170 | 2011 |
| 54-50-05 | 414/424 | DET | INT | 54-50-00-220-808-L00 | L600 | – | 4713 | – | 4713 |
| 54-50-05 | 414/424 | DET | INT | 54-50-00-220-809-L00 | L600 | 10000 | 1130 | 10000 | 1130 |
| 54-50-05 | 414/424 | DET | INT | 54-50-00-220-808-L00 | L650 | – | – | – | 4713 |
| 54-50-05 | 414/424 | DET | INT | 54-50-00-220-809-L00 | L650 | – | – | 10000 | 1130 |

**Table 2 – Changes to the CDCCL**

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|---|
| **8) Wires inside the pumps**<br><br>The type, length and supporting of wires used inside the fuel pumps are such that provide enough clearance from any internal surface of the pump, what prevents from chafing and arcing. This configuration is a CDCCL item and must be retained if any maintenance task that requires the pump to be disassembled is performed. The pumps CMM provide warnings about the critical configuration of the wires in the pumps. This is applicable for all fuel pumps of all tanks of the aircraft, including the pumps equipped with the CHA.<br><br>**NOTE:** Applicable to aircraft Equipped with Ventral Fuel Tank and AE3007A2 Engines, commercially called Legacy 650 and identified in the MPG as L650. |
| **10) Fuel Pump PTFE Interface fitting at the Tank Wall**<br><br>Fuel pumps of main wing tanks and auxiliary tanks having PTFE interface fitting, which are installed on the tanks wall. This fitting is highlighted as CDCCL in the appropriate AMM procedures, to check proper installation, leakproofness, during periodic inspections or whenever pump is changed.<br><br>**NOTE:** Applicable to aircraft Equipped with Ventral Fuel Tank and AE3007A2 Engines, commercially called Legacy 650 and identified in the MPG as L650. |

**Table 3 – New Fuel System Limitation Items**

| REFERENCE NUMBER | TYPE | DESCRIPTION | ZONE | INT | EFFECT | TOLERANCE |
|---|---|---|---|---|---|---|
| 28-50-01-220-001-A02 | DET | Inspect (Detailed Inspection) Fuel Pump Electrical Harness CHA (Cable Harness Assembly) end fitting. **NOTE:** Applicable to aircraft with fuel pump harness with corrugated conduit. | 155, 156, 157, 197, 271, 272, 1972 | 10,000 FH or 48 MO | L650 | Not Applicable |
| 28-50-01-720-001-A00 | FNC | Functionally Check Fuel Pump Electrical Harness for Leakage. **NOTE:** Applicable to aircraft with fuel pump harness with corrugated conduit. | 155, 156, 157, 197, 271, 272, 1972 | 20,000 FH or 96 MO | L650 | Not Applicable |
| 28-50-08-212-001-A00 | GVI | Inspect (General Visual) Ventral Fuel Tank External Harness | 1972 | 10,000 FH or 48 MO | L650 | Not Applicable |
| 28-50-09-212-001-A00 | GVI | Inspect (General Visual) FWD Fuel Tank External Harness | 191, 197 | 10,000 FH or 48 MO | L650 | Not Applicable |
| 28-50-10-212-001-A00 | GVI | Inspect (General Visual) Aft Fuel Tank External Harness | 271, 272 | 10,000 FH or 48 MO | L650 | Not Applicable |

## (b) No Alternative Inspections or Inspection Intervals

After accomplishing the revision required by paragraph (a) of this AD, no alternative inspection or inspection intervals may be used, unless the inspection or inspection intervals are approved as an AMOC.

## (c) 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 General-Manager, Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos – GGCP).

**CONTACT:**

For additional technical information, contact:

National Civil Aviation Agency (ANAC)
Aeronautical Products Certification Branch (GGCP)
Av. Cassiano Ricardo, 521, Bloco B, 2º andar, Parque Residencial Aquarius
Fax: 55 (12) 3797-2330
12246-870 – São José dos Campos - SP, BRAZIL.
E-mail: pac@anac.gov.br

**APPROVAL:**

HÉLIO TARQUÍNIO JÚNIOR
General Manager
GGCP

DINO ISHIKURA
Airworthiness Superintendent
ANAC

**NOTE:** Original in Portuguese language signed and available in the files of the Aeronautical Products Certification Branch (GGCP) of the National Civil Aviation Agency (ANAC).