



Boletim Especial de Aeronavegabilidade *(Special Airworthiness Bulletin)*

ATA: 30 - Ice and Rain Protection

BEA Nº 2019-04 R1

Subject: Electrical wiring terminations at the receptacles of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 relays
Date: October 14th, 2019

Introduction:

This Special Airworthiness Bulletin (BEA) is a revision of BEA 2019-02 and advises owners and operators of Embraer S.A. Model EMB-145 airplanes about the inspection of the electrical wiring terminations at the receptacles of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 relays.

This BEA 2019-04 corrects the task numbers related to the Embraer S.A. model EMB-135BJ (Legacy 650 and Legacy 600), incorrectly informed in BEA 2019-02 as being the same as the other affected models.

The correct task numbers and their respective effectivities are shown below:

- Task 20-00-00-220-014-A00 of the Maintenance Review Board Report (MRBR) (AMM task 05-40-13-200-802-A) applicable to Embraer S.A. airplanes models EMB-145, EMB-145ER, EMB-145EU, EMB-145EP, EMB145LR, EMB145MR, EMB-145LU, EMB-135ER, EMB-135LR, EMB145MP, EMB-145MK, EMB-135KE, EMB135KL e EMB-145XR;
- Task 20-00-00-220-011-A00 of the Maintenance Planning Guide (MPG) (AMM task 05-40-13-200-801-A) applicable to Embraer S.A. airplanes model EMB-135BJ (Legacy 650);
- Task 53-Z223-214-001-A00 of the Maintenance Planning Guide (MPG) (AMM task 05-20-13-200-803-A) applicable to Embraer S.A. airplanes model EMB-135BJ (Legacy 600).

This Revision 1 corrects the EMBRAER contact information that was incorrect in the original revision of this BEA (dated August 02nd, 2019).

This bulletin is informative, and the recommendations are not mandatory. Until this time, there is no airworthiness concern that would warrant an Airworthiness Directive (AD) according to Regulamento Brasileiro de Aviação Civil (RBAC) nº 39.

Manufacturer: Embraer S.A.

Affected Aeronautic Product: Embraer S.A. model EMB-145, EMB-145ER, EMB-145EU, EMB-145EP, EMB145LR, EMB145MR, EMB-145LU, EMB-135ER, EMB-

135BJ, EMB-135LR, EMB145MP, EMB-145MK, EMB-135KE, EMB135KL, and EMB-145XR airplanes.

Background:

ANAC has issued Airworthiness Directives (ADs) 2005-08-04R1 and 2007-11-04R1 regarding the socket contacts of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 current sensor relays, due to occurrences of bad contact and smoke into the flight deck. These ADs require inspection of the relays, receptacles, and the replacement of certain socket contacts with improved ones having Part Number M39029/92-536. ANAC AD 2005-08-04R1 also requires re-routing and replacing the direct-vision windowsill drain hoses, in the area near the relay boxes, with others made of improved material.

After issuing the ADs, ANAC has also issued BEA 2017-03 bringing attention to the electrical wiring terminations at the receptacles of Pitot #1 (K0053), TAT #1 (K0064), Pitot #2 (K0054), TAT #2 (K0494), and Pitot #3 (K0057) current sensor relays, and Pitot #3 (K0058) relay, for degradation (heat damages, discoloration), insulation dryness, and cracking when performing the General Visual Inspection (GVI) specified in the Maintenance Review Board Report (MRBR) Task 53-Z223-214-001- A00.

ANAC has also issued, since then, BEA 2019-02 informing about the new detailed inspection (DET) 20-00-00-220-014-A00 of the Maintenance Review Board Report (MRBR) (AMM task 05-40-13-200-802-A) with more complete inspection information to address this issue.

Recommendations:

ANAC recommends all owners and operators to be aware of and perform the inspection tasks as shown in the “Introduction” section of this BEA, which inspects electrical wiring terminations at the receptacles of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 relays for signs of damage, adequate installation, chafing and general condition.

If any discrepancy is identified during the performance of this new task, please submit a Service Difficulties Report (SDR) to Embraer.

Reference documents:

- 1) Embraer S.A. Report No. 145-MS-079 - ELECTRICAL WIRING INTERCONNECTION SYSTEM – FAA PART 26 AND ANAC RBAC N° 26 SUBPARTE B – SOURCE DOCUMENT.
- 2) Embraer S.A. SWPM-145/() – STANDARD WIRING PRACTICES MANUAL – CHAPTER 20-00-03 – STANDARD PRACTICES.
- 3) Embraer S.A. SNL 145-30-0016 - PITOT 3 CURRENT SENSOR - REPLACEMENT OF SOCKET PIN.

- 4) Embraer S.A. SNL 145-30-0016 - PITOT 3 CURRENT SENSOR - REPLACEMENT OF SOCKET PIN.
- 5) Embraer S.A. Service Bulletin (SB) 145-30-0041 – ICE AND RAIN PROTECTION – REPLACEMENT OF THE DIRECT-VISION WINDOWSILL DRAIN HOSES.
- 6) Embraer S.A. Service Bulletin (SB) 145-30-0050 - ICE AND RAIN PROTECTION – REPLACEMENT OF THE SOCKET CONTACTS OF THE PITOT 3 CURRENT SENSOR RELAY.
- 7) Embraer S.A. Service Bulletin (SB) 145-30-0052 - ICE AND RAIN PROTECTION – REPLACEMENT OF SOCKET CONTACTS OF PITOT 1/2 AND TAT 1/2 CURRENT SENSOR RELAY.
- 8) Embraer S.A. Service Bulletin (SB) 145LEG-30-0011 - ICE AND RAIN PROTECTION – REPLACEMENT OF THE DIRECT-VISION WINDOWSILL DRAIN HOSES.
- 9) Embraer S.A. Service Bulletin (SB) 145LEG-30-0017 - ICE AND RAIN PROTECTION – REPLACEMENT OF THE SOCKET CONTACTS OF THE PITOT 3 CURRENT SENSOR RELAY.
- 10) Embraer S.A. Service Bulletin (SB) 145LEG-30-0019 - ICE AND RAIN PROTECTION – REPLACEMENT OF SOCKET CONTACTS OF PITOT 1/2 AND TAT 1/2 CURRENT SENSOR RELAY.
- 11) ANAC Airworthiness Directive (AD) 2005-08-04R1 – Amendment 39-1144, effective date 27 July 2006.
- 12) ANAC Airworthiness Directive (AD) 2007-11-04R1 – Amendment 39-1224, effective date 21 December 2007.
- 13) ANAC Special Airworthiness Bulletin (BEA) 2017-03, dated 20 of December, 2017.
- 14) ANAC Special Airworthiness Bulletin (BEA) 2019-02, dated 25 of April, 2019

For further information contact

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