

Subject: Flap and Slat torque tubes correct installation

Purpose

To inform owners and operators of ERJ-170/175 and ERJ-190/195 airplanes about the AMM Tasks revisions associated with the flap and slat torque tubes correct installation.

Background

The ANAC has received reports regarding either Flap or Slat torque tubes being not properly installed, thus leading to undesirable Flap or Slat fail events. In order to reduce such events recurrence, the following AMM tasks were revised with the inclusion of illustrations showing the difference between correct and incorrect torque tube installation.

- AMM TASK 27-51-03-4 - Flap Torque Tube - Removal/Installation;
- AMM TASK 27-81-03-4 - Slat Torque Tube - Removal/Installation;
- AMM TASK 27-51-00-220-801-A - Flap Mechanical Drive Line - Detailed Visual Inspection; and
- AMM TASK 27-81-00-220-801-A - Slat Mechanical Drive Line - Detailed Visual Inspection.

Analysis

Flap or Slat failure may result in an increase in required landing distances, higher fuel consumption than planned during a diversion and increased in the flight crew workload.

Recommended Actions

In order to prevent undesirable Flap or Slat system fail events caused by Flap or Slat torque tubes improperly installation, the ANAC recommends

owners and operators of EMBRAER ERJ-170/175 and ERJ-190/195 airplanes to do the following:

- Carry out a Detailed Inspection (DET) of the flaps and slats mechanical drive lines in accordance with revised AMM TASK 27-51-00-220-801-A – Flap Mechanical Drive Line – Detailed Visual Inspection and revised AMM TASK 27-81-00-220-801-A – Slat Mechanical Drive Line – Detailed Visual Inspection, dated January, 31th, 2011 for the ERJ-170/175 and July 15th, 2010, for the ERJ-190/195, or further revisions. If any discrepancy be found correct it before next flight; and
- Revise the approved Maintenance Manual to include the revised tasks: AMM TASK 27-51-03-4 - Flap Torque Tube - Removal/Installation; AMM TASK 27-81-03-4 - Slat Torque Tube - Removal/Installation; AMM TASK 27-51-00-220-801-A - Flap Mechanical Drive Line - Detailed Visual Inspection; and AMM TASK 27-81-00-220-801-A - Slat Mechanical Drive Line - Detailed Visual Inspection, dated January, 31th, 2011 for the ERJ-170/175 and July 15th, 2010 for the ERJ-190/195, or further revisions.

NOTE 1: For the purpose of this Flight Alert (AV) a Detailed Inspection (DET) is: “An intensive examination of a specific item, installation or assembly to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate.” Inspection aids such as mirrors, magnifying lenses, etc. may be necessary. Surface cleaning and elaborate access procedures may be required.

NOTE 2: Embraer Service News Letter (SNL) 170-27-0056 or 190-27-0050, as applicable, Flap and Slat Torque Tubes Correct Installation, original issuance, dated May 10th, 2010, presents also details of the correct installation of the torque tube, and can be used to verify the incorrect installation of the torque tubes' bolts.

Applicability

To all owners and operators of EMBRAER ERJ-170/175 and ERJ-190/195 airplanes.

Contact

For additional information regarding this subject please contact the Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos – GGCP) by phone at 55 (12) 3797-2525, by Fax at 55 (12) 3797-2330 or via e-mail at pac@anac.gov.br.