ANSV AGENZIA NAZIONALE PER LA SICUREZZA DEL VOLO

Prot. 303P /INV/341/6/06
Rome, September 28th, 2006

SAFETY RECOMMENDATION

Subject: Boeing 737/400, registration marks EI-COI. Accident occurred on June 15th, 2006, at Catania Fontanarossa airport (Italy).

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Synopsis

On June 15th, 2006, at 06.20 UTC, the aircraft B-737/400, registration marks EI-COI, flight AP 2843, while taking-off from Catania Fontanarossa airport to Rome Fiumicino (LIRF), suffered the NLG left wheel separation.

Although more detailed metallurgical investigation is currently ongoing, the preliminary report from the Italian Aviation Safety Board (ANSV) has already pointed out the *Stress Corrosion Cracking* (SCC) nature of the axle failed P/N 65-46215-16. Due to the recent maintenance history of the part, two Safety Recommendations were addressed to EASA (see attachment 1) who published the Safety Information No. 2006-07 (attachment 2).

The feedback from these actions apparently showed that the maintenance centre Aeroplex of Central Europe of Budapest, carried out the 1C inspection for corrosion on the component in agreement with the current Boeing Corrosion Prevention Task Card of NLG N. P32-00-01 (attachment 3).

In effect, this task card doesn't explicitly call out the removal of the spacer to check the axle surface underneath it.

Findings

Since the event, the EI-COI operator introduced an internal modification to the inspection procedure, specifically oriented to verify the presence of corrosion in that area during the 4A scheduled inspection of the part. Boeing had no objection to such an internal revision.
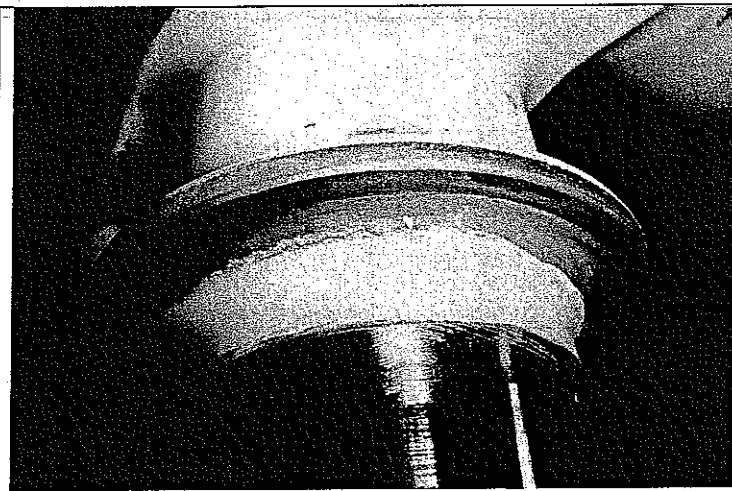

Photo n.1 – Corrosion signs on NLG axle

Up to now 2 over 7 of the inspected aircraft have revealed corrosion signs on the area (photo 1), otherwise masked by the spacer.

The introduction of the inspection procedure modification has a negligible impact on cost and time when compared to the task card currently in use.

In effect, the spacer removal is already called out by the task 32-45-21-024-001 during the ordinary NLG wheel removal and installation procedures (attachment 4).

Similarly to ADH, Aeroplex of Central Europe also decided to issue an internal Quality Bulletin for removal of the spacer during the 1C inspection.

Conclusions

The axle failure was due to a crack nucleated from a corrosion attack in the region of the external surface where the highest stresses are concentrated.

The current Corrosion Prevention Task Card P32-00-01 doesn't seem conservative enough with respect to this safety issue and more corrosion phenomena were detected since operator's inspection procedure modification has been introduced.

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Recommendations

Based on the previous considerations, ANSV recommends Federal Aviation Administration (FAA) to:

1. **consider requiring a revision of the current Corrosion Prevention Task Card P-32-00-01 for the aircraft Boeing 737-400, explicitly calling out removal of the spacer and visual check for corrosion on the area beneath it, with particular attention to be focused at the 6 'o clock position.**

   This modification should also clarify the following points:
   - **if corrosion is detected in that specific area an additional NDT for cracks (e.g. MPI) has to be implemented;**
   - **in absence of cracks, protective finishes have to be restored as practical.**

(ANSV-17/341-06/1/A/06)

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