



## **Aviation Safety Council The Executive Yuan, R.O.C.**

### **Interim Flight Safety Bulletin**

Reference No.: ASC-IFSB-07-12-002

Date: December 26, 2007

#### **Background Information**

On September 20th, 2007, a Boeing 737-800, B registered aircraft, during transit check, a 77 cm long through crack was found on the lower belly fuselage skin below the after-cargo compartment. Metallurgical examination concurred that heavy corrosion on the inboard side of skin had caused insufficient residual skin thickness, which was unable to sustain the hoop-wise tensile stress in consequence of cabin pressurization during the flight operation. The through crack was triggered as a result.

Based on the factual information collected to date, the ASC has identified following safety issues that should be addressed:

1. The corroded skin presented non wide-spread corrosion but scattered on the drain path downstream of a leaking waste-tank overboard pipe joint. Other corrosion sites were observed only at where the leaked fluid accumulated.
2. A one time inspection on the same type of fleet was performed and similar corrosive cases were reported on other airplanes of the operator. The corroded areas were also identified in the places where the leaked waste-tank fluid passed by or accumulated. There is no report of the same type of corrosion on the other aircraft which have no waste-tank fluid leakage problem.
3. Up to now, the key chemical substance from the leaked waste-tank fluid causing the corrosion of aluminum skin has not yet been identified. However, it is confirmed the fluid came from the leaked waste-tank joint had contributed mainly to the corrosion and the subsequent cracks.

#### **Interim Safety Recommendation:**

To operators:

1. Make sure that leakage of the waste water system is properly controlled, and aircraft structural integrity is well maintained at locations where the possible leakage fluid from waste-tank system flows over and/or accumulates.
2. Review and draw up a policy in order to prevent the same type of event from recurring.

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