

Follow-up Action on Occurrence Report

*INCIDENT TO BAE 146-RJ100, G-CFAC, ON DESCENT INTO LONDON CITY ON 19 APRIL 2005
(THICKENED' DE-ICING FLUIDS CAUSING CONTROL RESTRICTIONS)*

CAA FACTOR NUMBER : F14/2006
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SYNOPSIS

(From AAIB Report)

During the winter of 2004/2005, UK-based airline operators experienced numerous incidents of restricted elevator and aileron controls on their Avro 146-RJ100 fleets. One operator also reported occurrences of restricted elevator controls on its Embraer 145 and Bombardier DHC-8 aircraft. These aircraft types are similar in having non-powered flight controls. Other European operators of Avro 146M-series aircraft also reported flight control restriction events during the same period.

Many of these events were found to be associated with residues of 'thickened' de-icing fluids, that had accumulated in the aerodynamically 'quiet' areas of the elevator and aileron controls. These residues rehydrate on exposure to precipitation and can freeze at altitude, with the potential for restricting control movement. In most of these incidents, the control forces returned to normal after the aircraft had descended into warmer conditions. Despite recent industry efforts at addressing the problems posed by such residues, an effective solution remains to be found.

This bulletin reiterates the safety recommendations issued in a recent AAIB bulletin, which stated that the build-up of such residues must be avoided through a tightly controlled regime of inspection and cleaning, and that new types of thickened fluids must be developed, whose residues do not cause flight control restrictions on aircraft with non-powered flight controls.

FOLLOW UP ACTION

The four Safety Recommendations, made by the AAIB following their investigation, are reproduced below, together with the CAA's responses.

Recommendation 2005-135

It is recommended, that the Joint Aviation Authorities, in consultation with the European Aviation Safety Agency, issue safety documentation to strongly encourage operators of aircraft with non-powered flight controls to use Type I de/anti-icing fluids, in preference to 'thickened' fluids, for de-icing.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed

Recommendation 2005-136

It is recommended that where the use of 'thickened' de/anti-icing fluids is unavoidable, the Joint Aviation Authorities, in consultation with the European Aviation Safety Agency, ensure that operators of aircraft with non-powered flight controls who use such fluids, invoke controlled maintenance procedures for the frequent inspection for accumulations of fluid residues and their removal.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed

Recommendation 2005-137

It is recommended that the European Aviation Safety Agency introduce certification requirements relating to de/anti-icing fluids for use on aircraft with both powered and non-powered flight controls.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed

Recommendation 2005-148

It is recommended that prior to the European Aviation Safety Agency assuming responsibility for operational matters within Europe, they consider the future need for the training and licencing of companies who provide a de/anti-icing service, so that anti-icing fluids are applied in an appropriate manner on all aircraft types, but specifically to ensure that the entry of such fluids into flight control mechanisms and control surfaces is minimised.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed