

AIRCRAFT ACCIDENT REPORT No. 5/92

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REPORT ON THE ACCIDENT TO BRITISH AEROSPACE ATP, G-LOGA
AT EDINBURGH AIRPORT, SCOTLAND ON 5 FEBRUARY 1992

On landing from a visual approach to runway 31 at Edinburgh Airport the Loganair ATP, with 31 passengers and four crew aboard, immediately veered sharply to the left and ran off the side of the runway onto the grass. There were no injuries and the occupants evacuated the aircraft using the forward airstairs.

The following causal factors were identified:-

- (i) The aircraft left the runway because of an undemanded nose-wheel steering deflection of 15° to the left and an ineffective steering tiller.
- (ii) The undemanded turn and lack of subsequent tiller response resulted from a seized nose-wheel steering upper pivot joint, which led to the failure of the supporting structure of the pulley carrying the steering tiller cable to the nose-wheel steering mechanism.
- (iii) The nose-wheel steering upper pivot joint was tight on assembly, possibly with an interference fit of the bolt in the lug and/or the fork bushes.
- (iv) The pivot joint was tight on assembly because:-

A British Standard, describing the pivot joint bolt dimensions, had been transcribed incorrectly into the British Aerospace Aircraft Group Design Handbook and thence into the drawings for the nose-wheel steering system.

The dimensions of the pulley lug hole were inadequately controlled during cadmium plating.

- (v) The ATP pivot joint assembly process did not call for lubrication during assembly.

Five Safety Recommendations were made during the course of the investigation, three to British Aerospace, one to the British Standards Institute and one to the Civil Aviation Authority.

- (i) British Aerospace review the accuracy of their Design Handbook standards and manufacturing drawings for cadmium plated fasteners against the appropriate British Standards
- (ii) British Aerospace introduce checks on the 'after plating' dimensions of the hole in the pulley lug.
- (iii) British Aerospace review their assembly procedures for the ATP nose-wheel steering upper pivot joint, and other similar pin joints on the ATP aircraft, with a view to including lubrication.
- (iv) The British Standards Institute obtain a consensus from the British aerospace industry on the format of the information to be used in British Standards describing cadmium plated bolts for aircraft, and that the appropriate British Standards be brought into line with that format.
- (v) The CAA review the requirements of the Air Navigation Order, Schedule 4, Scale Y2 to increase the number of megaphones required.

The Civil Aviation Authority's response to these Safety Recommendations is contained in CAA Follow-up Action on Accident Reports (FACTAR) NO. 5/92 published coincident with the Report.