

Boeing 747-436 G-BNLA

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Aircraft Type and Registration: Boeing 747-436 G-BNLA
No & Type of Engines: 4 Rolls-Royce RB211-524G turbofan engines
Year of Manufacture: 1989
Date & Time (UTC): 25 February 1998 at 0606 hrs
Location: London Gatwick Airport
Type of Flight: Public Transport
Persons on Board: Crew - 18 - Passengers - 267
Injuries: Crew - None - Passengers - None
Nature of Damage: Damage to right hand inboard and outboard elevators
Commander's Licence: Airline Transport Pilot's Licence
Commander's Age: N/K
Commander's Flying Experience: N/K
Information Source: AAIB Field Investigation

The aircraft arrived at London Gatwick after an uneventful scheduled passenger flight from Harare (Zimbabwe). During the post-flight engineering inspection, it was noted that both of the right hand elevators had sustained some damage. The flight crew were informed, but had not previously been aware of the presence of the damage. There was no debris on the parking stand at Gatwick and the aircraft had not passed close to any other aircraft, vehicle or structure while taxiing in. A search of the route taken from the runway to the stand was made, but nothing was found.

The commander reported that, prior to departure, the aircraft had been parked on a north easterly heading on Stand 7 at Harare International Airport. It was dark at the time and no elevator damage was noted during the crew's pre-flight inspection. During the engine start up sequence, an inbound Airbus A340 aircraft had taxied in a south westerly direction past the right side of the Boeing 747, and had then turned right through 90° and stopped close behind it, apparently under the direction of an Airport marshaller. It then remained in this position until the Boeing 747 taxied away before being parked on the same Stand. The commander indicated that the A340 crew made an RTF

request for the Boeing to use minimum breakaway thrust when starting to taxi as their aircraft was in close proximity behind the Boeing 747.

The first officer was the handling pilot for the flight. His only comment on the aircraft's handling characteristics was that he had felt that an unexpected slight yaw had occurred during the take-off rotation. However, an analysis of the Quick Access Recorder (QAR) data did not show any significant yaw, lateral acceleration or elevator control surface position split during the take-off sequence.

Detailed examination of the elevator damage showed that a narrow object, painted blue, had struck the underside of the right hand outboard elevator causing damage to the lower skin. It had travelled inboard causing more serious damage to the inboard elevator and had caused a piece of honeycomb structure about two feet long and up to 10 inches wide to break out from the trailing edge. It had then stopped before striking the tailcone.

Checks with the airport authority and ATC at Harare indicated that there were no records of any abnormal events nor of any retrieval of debris from the ramp area. However, the Boeing 747 operator's local representative did locate a small piece of fibreglass type debris from the ramp area. This was forwarded to the operator's engineering base for examination. It proved to be too small to be positively confirmed as debris from the Boeing 747 elevator structure.

An examination of ground equipment and vehicles at Harare was carried out by the Boeing 747 operator's staff. It was found that all such equipment was white in colour. Of the vehicles in use, only one was painted blue and this was undamaged.

Calculations showed that, for the laden weight of the Boeing 747, the A340 winglet would have been close to the height required to strike the Boeing 747's elevators. However, no damage was reported to have occurred to the right winglet of the A340 aircraft, so it could not be positively concluded that it had been in contact with the Boeing 747 elevators.