Boeing 757-236, G-BIKJ, 3 December 1999

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Aircraft Type and Registration:	Boeing 757-236, G-BIKJ
No & Type of Engines:	2 Rolls-Royce RB211-535C turbofan engines
Year of Manufacture:	1983
Date & Time (UTC):	3 December 1999 at 1605 hrs
Location:	Mansfield, Nottingham
Type of Flight:	Public Transport
Persons on Board:	Crew - N/K - Passengers - N/K
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Loss of engine afterbody fairing; damage to back door of house in Mansfield
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	N/A
Commander's Flying Experience:	N/A
Information Source:	Aircraft Accident Report Form submitted by the operator

On 3 December the owner of a house in Mansfield, near Nottingham, reported that a large metal object, some 1.5 metres by 0.5 metres in size and weighing some 25 lb, had fallen on his house and 'smashed' his back door. Two days later, during a ramp inspection of the above aircraft at London Heathrow Airport, one of the operator's engineers noticed that the strut-to-aft fairing seal assembly was missing from an engine pylon and this was then reported to the AAIB. An analysis by the airline concerned revealed that the seal had fallen from that aircraft as it had passed overhead Mansfield on a flight from London Heathrow Airport to Glasgow. The crew had been completely unaware that the seal had detached.

The assembly which detached forms a seal between the afterbody fairing, which is part of the engine, and the engine pylon (strut), as shown in Figure 1(A). It is installed by being slid into position from the rear, allowing four locating bushings to engage with four slots in the lower surface of the seal assembly, as shown in Figure 1(C). In order to prevent the seal from moving aft, a retention bushing fixed to the seal assembly is inserted into a hole in the afterbody fairing; see Figure 1(B). A bolt is then inserted through the bushing and into an anchor nut in the engine afterbody fairing, as illustrated in Figure 1(D).

Upon examination of the assembly by the operator's maintenance personnel, no evidence of engagement of the seal retaining bolt was apparent, and the bolt was not recovered. The associated engine on G-BIKJ had been changed on 16 November 1999, and this would have been the last occasion on which the seal was disturbed.

There have been previous instances of detachment of this strut-to-aft fairing seal assembly on similar aircraft because of apparent non-fitment of the retaining bolt, one of which was reported in AAIB Bulletin 2/97 (G-BIKF).

Following this later incident, a modification has been introduced by the operator which introduces a hole in the existing bolt head, allowing it to be wirelocked, or alternatively a different bolt may be used with a hole present for the same purpose. It was intended that the operator's fleet would have been so modified within two weeks of this incident. Consideration was also being given to another modification, which would introduce a modified seal catch retainer.