

Boeing 757-236, G-BPEC

AAIB Bulletin No: 11/2001	Ref: EW/G2001/05/04	Category: 1.1
Aircraft Type and Registration:	Boeing 757-236, G-BPEC	
No & Type of Engines:	2 Rolls-Royce RB211-535E4 turbofans	
Year of Manufacture:	1990	
Date & Time (UTC):	8 May 2001 at 1109 hrs	
Location:	Geneva Airport, Switzerland	
Type of Flight:	Public Transport	
Persons on Board:	Crew - 7	Passengers - 91
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilots licence	
Commander's Age:	51 years	
Commander's Flying Experience:	10,990 hours (of which 6,930 were on type)	
	Last 90 days - 130 hours	
	Last 28 days - 77 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and a detailed engineering investigation by the operator	

History of the flight

Shortly after take off from Heathrow Airport, the commander of the Boeing 757 aircraft was informed by ATC that the aircrew of an aircraft on the ground awaiting take off had reported 'thick black smoke' coming from the left engine of his aircraft. The instruments were monitored for possible signs of engine failure during the climb, but all indications remained normal. After RT discussions with the operator's ground engineering staff and a visual inspection of both engines from the cabin by the cabin services director (CSD), the flight to Milan was continued.

However, later during the flight it was noticed that a fuel imbalance was beginning to occur. The first officer entered the cabin to see if there was any indications of smoke or fuel loss from the engines, but none were apparent. After further communication with the operator's ground engineering staff at Heathrow, a decision was made to divert to Geneva Airport.

A 'PAN' was declared to Geneva ATC and the commander instructed the cabin crew that although the landing was expected to be normal, they should be prepared for a possible evacuation. During the final approach to land on Runway 05, the commander was requested by ATC to stop the aircraft on the runway and was given the radio frequency for the Airport Fire Service (AFS). After an uneventful landing the aircraft was brought to a halt on the runway and the left engine was shut down.

The emergency evacuation

The aircraft was quickly surrounded by the vehicles of the AFS. The commander tried to contact the AFS using the radio frequency which had been passed by ATC, but received no reply. He then contacted ATC to confirm the frequency and then saw that the AFS was spraying foam around the left engine. As the auxiliary power unit was running, the commander shut down the right engine and again called the AFS. On this occasion he made contact with the AFS and was told that there was a fuel leak from the left engine; the AFS requested that the aircraft be evacuated. The commander informed the AFS that there were some very elderly passengers onboard and asked the AFS to confirm that they wanted an evacuation using the slides. The AFS replied that they did not have any steps and confirmed that they wanted the aircraft evacuated by the slides.

The Senior Fire Officer took the decision to advise the commander that an evacuation using the slides was essential because the fuel leak was substantial and was running under the aircraft in the vicinity of the main landing gear, where heat from the brakes was causing the fuel to vaporise. He considered the situation to be a potentially major fire hazard.

An evacuation of 89 of the 91 passengers was then carried out using the slides on the right side of the cabin. Two elderly passengers, who were unable to use the slides, remained onboard the aircraft together with the flight deck and cabin crew. At this stage the Fire Officer decided that there was no further threat to the aircraft and the two elderly passengers and crew were later disembarked using steps. The aircraft was then towed off the runway to a parking stand.

Source of fuel leak from the left engine

The operator subsequently carried out a detailed investigation and established that the fuel leak was from the high pressure fuel pump which had been replaced during the night before the incident flight. The pipe from the fuel pump to the fuel flow governor had developed a fuel leak at the pump/pipe joint due to one of the two securing bolts failing to secure the pipe correctly because of a damaged helicoil thread insert. Following replacement of the high pressure fuel pump, a leak check ground run of the left engine was carried out. The Maintenance Manual required the engine run to be conducted at idle power; no fuel leaks were observed during this run. A high power engine run was also then carried out, with no fuel leaks apparent.

The thorough investigation conducted by the operator had highlighted a number of areas within their procedures where changes or improvements would reduce the risk of such an incident recurring, and in this context eight internal safety recommendations had been formulated within the company.