

No: 11/87

Ref: 1a

Aircraft type and registration: Bristol 149 Blenheim Mk IV G-MKIV

No & Type of engines: 2 Bristol Mercury XX piston engines

Year of Manufacture: 1942

Date and time (UTC): 21 June 1987 at 1345 hrs

Location: Denham airfield, Buckinghamshire

Type of flight: Air display

Persons on board: Crew — 3 Passengers — None

Injuries: Crew — 3 (minor) Passengers — N/A

Nature of damage: Aircraft damaged beyond repair

Commander's Licence: Airline Transport Pilot's Licence

Commander's Age: 60 years

Commander's Total Flying Experience: 15,639 hours (of which 4½ were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot, report by engineer and video film.

The aircraft was making an appearance at an air display. On board were the pilot and 2 engineers who were part of the team that had rebuilt the aircraft. One of the engineers, who knew the aircraft well and held a Private Pilot's Licence, Group B, occupied the right-hand cockpit seat for take-off and landing. The other engineer sat in the turret. The runway in use was 25 with a usable length of 667 metres; the wind was from the north-west at 3 to 5 knots and there was no significant weather.

When the display was planned the pilot had declined to land at Denham because of the relative shortness of the runway, and it had been agreed that no landing would be attempted. Nevertheless, on the day, after demonstrating the aircraft at both high and low speeds the pilot decided to carry out a touch-and-go landing. He later stated that he had been asked to do this by the display organisers but no evidence was found that any such request was made to him at the time of the display. The touch-and-go landing was thus not part of the planned display and had not been rehearsed.

A setting of 15° flap was used for the approach, which was shallower and slightly faster than it would have been if landing flap (60°) had been used. The aircraft touched down some way beyond the landing threshold and bounced slightly. The pilot controlled the bounce and applied power to take-off again. The sound of misfiring was heard from at least one engine and black smoke was seen behind the aircraft. The aircraft veered to the left and ran on to the grass. The pilot stated that after touch-down he steadily opened the throttles to +2 psi boost pressure then, sensing that the aircraft was not accelerating normally, he opened the throttles further. Acceleration was still below normal so he opened the throttles fully and then held the

aircraft on the ground to achieve flying speed. He had no recollection of the engines misfiring or of the aircraft swinging to the left. The engineer in the right-hand seat said that, after controlling the bounce, the pilot rapidly opened the throttles and both engines suffered rich mixture cuts. He said that he advised the pilot to close the throttles and open them up again more slowly but the pilot did not respond; some seconds later the right engine picked up to full power and the aircraft left the runway. The engineer in the turret confirmed that he heard on his headset the advice given by the other engineer to the pilot.

A video film of the landing showed the aircraft rolling along the runway with the tailwheel off the ground for about 12 seconds, for the last 8 of which the sound of an engine or engines misfiring could be heard on the film. The right wing then began to rise and the aircraft ran off the runway with the right wing still rising, at a speed said by the pilot to have been about 80 mph but thought by the engineer to have been about 70 mph. It became airborne, banked some 15° to the left, and climbed to between 50 and 100 feet with the left bank increasing and the airspeed reducing. A few seconds later the left wing hit trees and the aircraft cartwheeled along the ground. Both engines were torn from their mountings, both wings were severely damaged and the fuselage was broken in half. The occupants suffered only minor injuries; the two engineers were able to evacuate the aircraft unaided and the pilot was released from the wreckage by the airport fire and rescue services, who arrived at the scene very quickly and covered leaking fuel with foam.

The operating company had taken great pains to ensure that the aircraft was airworthy and that the pilot was capable of safely performing the display. Prior to flying the Blenheim the pilot had been given experience on a Beechcraft 18, an aircraft with similar handling characteristics. He had flown 4½ hours on the Blenheim but had not practiced a touch and go landing on the aircraft. The Pilot's Notes stated that on take-off the throttles should be fully opened in a time of only 2 to 3 seconds and it had been found that any attempt to open the throttles in less than that time caused rich mixture cutting. The pilot was aware of the need to avoid rapid throttle movements.