

The aircraft was constructed in 1973 and imported to the UK in 1979. A UK Certificate of Airworthiness was issued in February 1980 since when the aircraft had flown 4 hours bringing its total time in the air to 628 hours. It has not been established when or where the modification to the port landing gear dampers was carried out.

No: 2/81

Ref: EW/C717

Aircraft: Douglas A-26C (Invader) N3710G
Date and time (GMT): 21 September 1980 at 1514 hrs
Location: 1/3 mile beyond end of runway 21 at Biggin Hill Aerodrome, Kent
Type of flight: Display
Persons on board: Crew - 1 Passengers - 6
Injuries: Crew - 1 (fatal) Passengers - 6 (fatal)
Nature of damage: Aircraft destroyed
Commander's Licence: Commercial Pilot's Licence (UK)
Commercial Pilot's Licence (USA)
Commander's total flying experience: Over 8,000 hours (of which over 200 hours were on type)

The aircraft was due to take part in a Battle of Britain Air Display and was programmed to take-off and go straight into a display lasting eight minutes. During the display briefing, which was held on the morning of the show, the pilot of the Invader asked if he could take-off early prior to the commencement of his display. No explanation was given for this request, nor did the pilot give any indication at the briefing as to what manoeuvres he intended to include in his display. A suitable time in the programme for an earlier take-off could not be found and the pilot accepted the arrangements as originally scheduled.

Prior to the flight's departure, six passengers boarded the aircraft which was equipped with sufficient seats and seat belts for all the occupants. The aircraft, with partial flap extended, took off on runway 21. After becoming airborne it made a climbing turn to the right and its landing gear was retracted. It then carried out a right hand circuit climbing to an estimated height of between 1,000 and 2,000 feet downwind. Having completed the circuit it made a shallow diving approach to the aerodrome and flew level in a clean configuration along the line of runway 21 at a height of about 150 feet. When the aircraft was approximately two thirds down the runway it pulled up into a climb and approaching the upwind end of the runway commenced rolling to the left. It continued rolling until inverted when it pitched nose downwards; whilst descending its rate of roll appeared to slow down. Photographic evidence shows that as the aircraft approached the inverted attitude its rudder was deflected slightly to the left and when it started to pitch downwards condensation trails appeared at both wing tips. It continued rolling to the left at an increasing rate and, with wingtip vortices still visible, it dived steeply into the valley which lies beyond the end of runway 21. The aircraft continued rolling past the wings-level attitude and photographic evidence also shows that it was still rolling, with ailerons applied in the correct sense, as it crashed into open ground across a road at the bottom of the valley directly in line with the extended centre line of runway 21. Just before impact the left wing sheared through some overhead power cables, narrowly missing a row of houses. The aircraft's heading at impact was approximately 230°, its attitude was about 60° nose down and steeply banked to the left. All the occupants were killed and the aircraft was destroyed by ground impact and the ensuing fire.

Subsequent inspection of the wreckage showed that, at impact, the aircraft was structurally complete, the wing flaps were retracted and that both engines were developing power.

The aircraft was registered in the United States of America and in 1965 it was certificated by the FAA in the Restricted Category only for the special aerial surveying purpose. Two restrictions in the airworthiness certificate stated that the aircraft 'did not comply with International Airworthiness Standards of ICAO' and that 'special permission must be obtained from foreign countries for flights over their territories'. There was no record of any permit being issued by the CAA. The certificate of airworthiness was on-going and conditional upon the aircraft being properly maintained. Some maintenance records were destroyed during the accident but it is understood that it had been maintained and serviced principally by persons who were on board the aircraft when it crashed. It is estimated there were approximately 270 US Gallons of aviation gasoline fuel in the aircraft's tanks at take-off but it was not possible to establish its centre of gravity or the precise distribution of its load. According to an operating manual recovered from the wreckage aerobatic manoeuvres were not permitted.

The pilot had undergone treatment for a depressive illness in June 1980. He was subsequently examined by approved medical examiners including an aviation psychiatrist and was issued with a class 1 medical certificate in July 1980.