

No: 4/92

Ref: EW/G91/10/13

Category: 1b

Aircraft Type and Registration: Piper PA-23-250 Aztec, G-AZXG

No & Type of Engines: 2 Lycoming IO-540-C4B5 piston engines

Year of Manufacture: 1969

Date & Time (UTC): 25 October 1991 at 1635 hrs

Location: Little Snoring Airfield, Norfolk

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - 1

Injuries: Crew - None Passengers - None

Nature of Damage: Insurance write-off

Commander's Licence: Private Pilot's Licence

Commander's Age: 42 years

Commander's Flying Experience: 80 hours (of which 23 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot, AAIB telephone enquiries and laboratory analysis of fuel samples.

At approximately 300 feet agl after take-off from runway 25 at Little Snoring, Norfolk, the right engine began to run roughly and its RPM started to decay. The degree of power loss was not great but was sufficient to require the application of rudder to maintain balanced flight, and the RPM and manifold pressure were fluctuating.

At approximately 600 feet agl, the left engine also began to run roughly. The climb was continued, with both throttles being manipulated by the non-handling pilot in an effort to maintain some power, and with *"heavy vibration from both engines"*.

At about 1200 feet agl as the aircraft began to lose height, a Mayday call was made to Marham on 124.35 MHz (the frequency the pilot had contacted immediately after take-off) and the aircraft was turned back to Little Snoring, with the throttles still being manipulated. The pilot made his descent with the aircraft 'clean' and at a high airspeed, because he was concerned about his ability to reach the airfield if power was lost completely. The engines continued to run, albeit roughly, and at a late stage on the approach the landing gear and flaps were selected down. However, the landing gear did not

lock-down and as the aircraft landed all three landing gears retracted and the aircraft slid along the length of the runway on its underside, before coming to rest. Both occupants evacuated without difficulty and sustained no injuries.

During recovery of the aircraft, the landing gear was lowered under 'free-fall' conditions and locked readily.

Prior to the accident, the aircraft had undergone extensive maintenance associated with the renewal of its Certificate of Airworthiness. This work included replacement of one cylinder and piston on each of the engines, and interchanging of the left and right propellers to optimise climb performance. Approximately five hours of flight testing were then carried out satisfactorily and a C of A was issued on the 19 September 1991.

Between the completion of the C of A test flights and the accident flight, a period of about five weeks, the aircraft had been parked on the airfield, in the open. The pilot stated that he had drained about one and a half pints of fuel from each side of the aircraft when carrying out water checks on the fuel tanks and gascolator filters prior to the accident flight, and said that *"engine run ups were as per PIPER HAND BOOK, ie run engines to clear cross feed lines of stale fuel"*. Post accident fuel samples were taken by an insurance assessor, after the aircraft had been recovered to the hanger by the maintenance company which carried out the C of A. These samples were later forwarded to AAIB for analysis.

The fuel analysis showed the fuel to be aviation gasoline. The samples were clear, bright, and of good colour. A small amount scale and sediment was present in the sample from the left inner tank, typical of samples taken from aircraft in the field, and was considered unlikely to have affected engine operation. The sample labelled *"Stbd gasc"* contained a quantity of water which, if representative of the fuel being delivered to the right engine at the time of the incident, would be expected to have had some adverse effect on engine performance. However the pilot, who observed the samples being taken, is strongly of the opinion that this water was residue left over from the washing-out of the bottle which had then been used to take this sample.