AAIB Bulletin No: 4/94 **Ref: EW/C94/1/3** **Category: 1.3**

Aircraft Type and Registration:	Cessna 182F Skylane, G-PICS	
No & Type of Engines:	1 Continental O-470-R piston engine	
Year of Manufacture:	1963	
Date & Time (UTC):	17 January 1994 at 1754 hrs	
Location:	High Seat near Keswick, Cumbria	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - Fatal	Passengers - N/A
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Commercial Pilot's Licence (current Class 3 medical certificate) exercising the privileges of a Private Pilot's Licence	
Commander's Age:	64 years	
Commander's Flying Experience:	About 3,300 hours (of which about 1,000 were on type) Last 90 days - Not known Last 28 days - Not known	
Information Source:	AAIB Field Investigation	

History of the flight

The aircraft was one of two operated by the pilot as an aerial photography business which was based at Fairoaks, Surrey. The pilot departed Fairoaks at 1103 hrs and landed at Blackpool, Lancashire at 1353 hrs. The timings for this flight indicate that the aircraft did not fly the most direct track available and it is probable that the pilot completed a photographic task in North Wales while en route to Blackpool. Having refuelled his aircraft, the pilot departed for a VFR flight to Cumbernauld, Fifeshire where he arrived at 1557 hrs. The timings of this flight indicate that a photographic task was undertaken en route and it is known that the company had an outstanding task in the Glasgow area at the time. On landing at Cumbernauld the pilot, when asked if he intended staying the night, replied that he would make a decision after he had checked the weather for the next day. After arranging for his aircraft to be refuelled to full tanks, the pilot reported to the control tower and telephoned Fairoaks ATC who informed him that the weather for the following day would be poor. He then informed the Cumbernauld airport manager that he would be returning to Fairoaks that night and went to the bar for

some tea and sandwiches. The person who served him in the bar stated that the pilot initially seemed fairly agitated and that she later saw him sitting at his table with his head bowed and apparently asleep. As he was about to leave, the pilot appeared to be either very tired or ill. The airport manager stated that when the pilot arrived in the tower after landing, his complexion was very sallow and he appeared tired and drawn. The person who refuelled G-PICS also observed that he looked very pale but his widow has stated that the pilot had a naturally sallow complexion.

The pilot returned to the control tower to book out before returning to his aircraft. It was by now fully dark.

On departure at 1708 hrs, the pilot informed Cumbernauld tower that he was changing radio frequency to Glasgow approach. All radio transmissions by the pilot to Cumbernauld, both on arrival and departure, were clear and correct and the quality of the voice did not suggest that the pilot was in any way distressed or fatigued. On contacting Glasgow, the pilot informed ATC that he was going to Fairoaks routeing via Dean Cross and Pole Hill and requested a height of 4,500 feet. He confirmed that he was flying VMC and accepted an altitude of 4,000 feet on the QNH of 1023 mb. At 1716 hrs he reported level at 4,000 feet and at 1720 hrs he was recleared to 4,500 feet. At 1729 hrs the pilot contacted Scottish Control and reported his height as 4,400 feet with an ETA for Dean Cross of 1750 hrs. At 1746 hrs the aircraft was handed over to London Information. The pilot confirmed his routeing and stated that he was approaching Dean Cross at 4,500 feet. This was the last transmission received from the pilot. His voice showed no sign of distress or fatigue.

Radar information indicated that, after leaving Dean Cross, the aircraft made good a steady track towards Pole Hill at an altitude of 4,400 feet until, at 1754 hrs, it entered a descending turn to the right. Only two radar returns were recorded after initiation of the turn. The first was a secondary return indicating a height loss of 300 feet in 8 seconds and the second was a primary return with no indication of height.

A witness situated 2 km to the north west of the last radar return saw and heard the aircraft coming from the direction of Dean Cross. It was flying in a straight line, clear of cloud, its navigation lights were on and the engine note was steady. After the aircraft had passed out of sight behind a ridge, the witness heard the engine note change to sound like "a bomber in an old film going down". After a short time the engine noise stopped abruptly with a dull thud. A second witness situated 3 km to the north east of the last radar return also heard an aircraft engine which sounded as if the aircraft was "going down". A meteorological aftercast provided by the Meteorological Office at Bracknell indicated that at the time of the accident, there was scattered cloud in the area with a base of 3,000 to 3,500 feet. Visibility was around 30 km, there was no precipitation and the temperature at 4,500 feet was -2°C.

Following a search by aircraft and Mountain Rescue Teams, the wreckage of the aircraft was found at 0038 hrs on 18 January 1994 at an elevation of 1,900 feet. The aircraft was severely disrupted but there had been no fire. An event recorded at a nearby siesmic recording station indicated an impact time of 1754 hrs and 30 seconds.

A postmortem examination of the pilot was unable to identify any pre-existing condition that could have caused or contributed to the accident. The examination did indicate that the inhalation of Carbon Monoxide was not a factor in the accident.

The pilot

In 1992, the pilot visited his usual CAA Authorised Medical Examiner (AME) with a view to upgrading his current Class Three medical certificate to a Class One so that he could subsequently apply for a UK ATPL since he already held an ATPL issued by the Federal Aviation Administration (FAA) of the United States. The AME, who also acted for the FAA, considered that, although he could find no specific medical reason to prevent the issue of a certificate, the pilot's general condition warranted investigation by the medical staff of the CAA. Having reviewed the results of the examination carried out by the AME, the CAA agreed to the issue of a Class One medical certificate, although it did express some reservations concerning the pilot's electrocardiogram and hearing. Following some delay due to the non availability of a chest X-Ray, a Class One certificate was issued in February 1993. Due to the delay in issuing this certificate, it was only valid until the end of the month of issue and the pilot was told that any further certificate would only be issued following a medical examination by a CAA doctor at Gatwick. The pilot did not respond to this invitation but instead returned to his AME in August 1993 and was issued with a Class Three certificate on the grounds that the medical requirements were considerably less stringent than those required for the issue of a Class One certificate. The pilot's widow stated that he had never suffered poor health and that he was in good health when he left home on the morning of the accident.

The pilot held an Instrument Rating and an IMC Rating, but no evidence could be found either in the pilot's licences or his flying log book to confirm that these ratings were valid at the time of the accident. The flying log book had no entries after May 1993 although it is known that the pilot had done a considerable amount of flying since that date. It was established that the pilot had completed five takeoffs and eleven landings at night during the previous 13 months which ensured that his Night Rating was valid.

Examination of the wreckage

Examination of the aircraft at the accident site showed that it had struck the ground in a steep dive whilst banked steeply to the right, at a speed estimated to be in excess of 200 kt. As a result of this, the aircraft was totally destroyed. Components were spread over a large area and a significant proportion of the forward end of the fuselage was buried in the impact crater.

A salvage operation was carried out and it was confirmed that the aircraft was structurally complete and had all control surfaces and doors present at the time of the impact. Examination of the impact marks revealed that the wing structure was not deflected in bending at the time of the impact, indicating that no significant upward elevator deflection was being applied. The speed of the aircraft at impact was such that there was a high degree of break-up which, in the case of many components situated in the forward part of the fuselage, rendered them impossible to identify.

Although the propeller was destroyed, both blades bore evidence of having been under power at impact. Most of the roll control system was recovered and showed no sign of pre-impact failure. In particular, the turnbuckles at the normal adjustment points within the wing structure were identified and showed clear evidence of having been correctly assembled and locked at the time of impact. Some parts of the aileron system situated forward of the instrument panel were not, however, recovered.

All flying control runs in the rear fuselage and tail were still connected, whilst the remainder of the flying controls in the forward part of the aircraft were too severely disrupted to be effectively examined. So far as could be established given their degree of break-up, they exhibited no evidence of pre-impact failure. Similarly, the remainder of the aircraft revealed no evidence of pre-impact failure.