

No: 12/84

Ref: EW/C887

**Aircraft type and registration:** Grumman AA5A Cheetah G-BIBM (light single engined fixed wing aircraft)

**Year of Manufacture:** 1979

**Date and time (GMT):** 13 September 1984 at 1558 hrs

**Location:** North Lew, Nr Okehampton, Devon

**Type of flight:** Private (training)

**Persons on board:** Crew — 1                      Passengers — Nil

**Injures:** Crew — 1 (fatal)              Passengers — N/A

**Nature of damage:** Aircraft destroyed by impact and fire

**Commander's Licence:** Student Pilot's Licence

**Commander's Age:** 43 years

**Commander's total flying experience:** 43 hours (of which 13 were on type)

**Information Source:** AIB Field Investigation.

On the day of the accident a moist south-westerly airstream covered Devon. The meteorological forecast for a 30 nm radius around Dunkeswell, the aerodrome of departure for the period 0900-1800 hrs was for mist and fog patches clearing but covering hills from time to time, outbreaks of drizzle, becoming dry, with a few sunny intervals but the chance of occasional showers. Above low stratus, the main cloudbase was forecast as 5 to 7 oktas Sc at 2500 feet, lowering later to 1500 feet. Visibility away from drizzle and showers was forecast as 10 km. The pilot had completed approximately 70% of the syllabus of training for a Private Pilot's Licence, including one hour introduction to instrument flying. In the morning he was briefed to fly a navigation exercise requiring him to fly a heading of 270° (M) from Dunkeswell to the main Barnstaple — Exeter road and railway line, turn at this position line on to 140° (M), fly to Exmouth and return to Dunkeswell via Budleigh Salterton.

After the accident, his instructor stated that he was briefed to fly at 800 feet agl, except over towns, where he was to fly not below 1500 feet, and he was not to enter cloud. If there was any risk of entering cloud, he was to turn on to 090° (M) and return to Dunkeswell. He was told that, if he had not identified the road/rail position line within 23 minutes of setting heading from Dunkeswell, he was to turn on to 140° (M) and fly to the coast. During the flight he was to maintain radio contact with Exeter airport unless asked to contact RAF Chivenor. He was reminded of the assistance he could expect on the emergency frequency, 121.5 MHz, if he was lost or in any other difficulties. He then flew the route with his instructor and performed satisfactorily. Weather conditions were good, and the instructor reported seeing no cloud below 1800 feet on the regional pressure setting.

In the late afternoon the pilot flew the same route solo, having been briefed again on the same items covered that morning, and after his instructor had checked the weather with Exeter airport. The actual cloud conditions reported at Exeter at 1433 hrs were one okta St at 1100 feet, 5 oktas Sc at 1800 feet and 5 oktas Sc at 3000 feet; forecast conditions for the period 1300—2200 hrs were 6 oktas Sc at 2000 feet, gradually lowering between 1900—2200 hrs to 5 oktas at 700 feet.

The aircraft took off from Dunkeswell at a time that was not recorded but a secondary radar response from the aircraft on transponder code 4321 without height encoding, was seen by London Airways radar 3 nm north of Dunkeswell at 1526 hrs, heading west. At 1528 hrs the pilot passed details of his intended route to Exeter and reported that he was 10 nm north of Exeter at that time. For the next 10 mins the radar trace continued generally westward with its track varying 30° either side of a mean of 263° (M). At 1538 hrs the pilot reported that he was at 1500 feet and was approaching South Molton. Exeter then advised him to contact RAF Chivenor. He called RAF Chivenor at 1539 hrs, reporting that he was a student pilot on a cross-country from Exmoor to South Molton and that he was flying at 1500 feet. RAF Chivenor passed him the Wessex regional QNH, which had to be repeated twice before he acknowledged it correctly, and advised him to listen out on the Chivenor frequency. Nothing more was heard from the aircraft for the next 13 mins, during which time the radar trace of the aircraft continued along a mean track of 260° (M), passing over the Barnstaple-Exeter railway line at approximately 1544 hrs. At 1549 hrs, when the pilot, having failed to find the railway line, should have turned onto 140° (M), the radar trace continued westward. At 1552 hrs the pilot reported to RAF Chivenor that he was unsure of his position, that he was flying at 800 feet in haze, and that he wanted a course to steer for Exeter. It is not known whether, at this time, the aircraft was at 800 feet on the Wessex QNH or at 800 feet above the ground.

When asked his present bearing, he reported it as 270° (M). The VDF bearing of this last transmission indicated to the approach controller at Chivenor that the aircraft was slightly west of south, but, as the aircraft was below Chivenor's radar cover, the controller had no indication of range. Realising that, if the aircraft was more than 20 nm to the south and was in poor visibility, there could be imminent risk of it colliding with terrain, the controller advised the pilot to climb to 3100 feet, the minimum safe altitude for that area. This advice was passed at 1554 hrs, at which time the radar trace was seen to turn sharply to the left on to a track of approximately 110° (M). Again the altitude to which the aircraft was to climb had to be repeated before the pilot acknowledged it correctly. RAF Chivenor then instructed him to change his transponder code from 4321 to 7301 for identification by London radar. He acknowledged this message correctly but selected code 7031, which was seen by London radar 10 nm north-west of Okehampton.

Two minutes later, at 1557 hrs, the aircraft was seen on radar to turn sharply to the right through almost 360° before disappearing from the radar screen. At about this time witnesses on the ground saw the aircraft dive steeply to the ground from about 400 feet with the engine at high power. One witness saw the aircraft level its wings from a right-hand turn a few seconds before the impact. Another witness caught a momentary glimpse of the aircraft flying just above the base of the cloud shortly before it crashed. The crash occurred at 540 feet amsl, approximately 12 nm south-west of the intended first turning point on the pilot's route; there was drizzle in the area at the time of the accident, and the actual cloud base was measured shortly afterwards by a police helicopter at 1000 feet amsl.

Examination of the wreckage revealed no pre-existing fault in the aircraft and there was no evidence of the pilot having suffered from any medical condition which could have contributed to the accident.