

No: 9/91

Ref: EW/C91/4/3

Category: 1c

Aircraft Type and Registration: Piper PA-28-181, G-BJCJ

No & Type of Engines: 1 Lycoming O-360-A4M piston engine

Year of Manufacture: 1981

Date & Time (UTC): 18 April 1991 at 1449 hrs

Location: Near Stanmore, Middlesex

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: Private Pilot's Licence with IMC and Night ratings

Commander's Age: 46 years

Commander's Flying Experience: 448 hours (of which 313 hours were on type)

Information Source: AAIB Field Investigation

The pilot arrived at Panshangar aerodrome at about 0830 hrs to prepare his aircraft for flight. Another pilot assisted him in pushing it to a position that was suitable for engine start, and they both checked the fuel contents by visual inspection through the filling points. It was estimated that the quantity observed would allow an endurance of 2½ - 3 hours, and the pilot is reported to have stated that this amount was enough since he only intended to fly to Cambridge and then return to Panshangar. The fuel contents were sufficient for these flights, with adequate reserves.

The pilot booked-out with the Panshangar Aerodrome Air/Ground (A/G) operator and, at 0911 hrs, took-off for Cambridge. Radiotelephony (RTF) recordings show that the pilot contacted Cambridge Approach at 0945 hrs when he reported his position as over Royston at 1300 feet, and requested landing instructions. He was informed that runway 28 was in use for light aircraft and requested to report when he had the field in sight. At 0950.40 hrs the pilot reported the field in sight and was transferred to the Cambridge Tower frequency. He reported that he was downwind left-hand for runway 28 and after flying a normal circuit pattern was cleared to land, with a surface wind of 310/12 knots. The aircraft landed at 0955 hrs, and the pilot was then given detailed taxiing and parking instructions, which he followed correctly and expeditiously. Throughout his approach, circuit,

landing and ground manoeuvring the pilot's RTF transmissions had been clear, correct and precise. His flight time from Panshangar to Cambridge was 44 minutes.

After parking his aircraft, the pilot paid his landing charges and stated that he would be leaving the aircraft for about three hours before returning to fly back to Panshangar. He then left the Airport in a taxi which took him to the centre of Cambridge.

After an absence of about two hours, the pilot returned to Cambridge Airport and booked-out for the return flight to Panshangar, quoting his endurance as two hours. At 1227.30 hrs, Charlie Juliett called Cambridge Tower for a radio check, and after several other messages which the pilot appeared to have difficulty in understanding, was cleared to "TAXI FORWARD AND TURN RIGHT TO THE HOLDING POINT RUNWAY TWO THREE". At 1232 hrs the Cambridge Tower Controller noticed that Charlie Juliett had turned in the wrong direction, and gave the pilot further instructions. The pilot replied, "CHARLIE JULIETT IS STATIONARY, CAN YOU TELL ME WHERE YOU WANT ME TO GO". He was given further explicit instructions and asked to carry out his power checks. When the Controller next looked at the aircraft, he saw Charlie Juliett was about to taxi directly behind a Hercules aircraft that was carrying out full power engine checks. He instructed Charlie Juliett to hold position, and when he realised that the aircraft was not about to stop, requested the Hercules aircraft to reduce power. At 1241.20 hrs the pilot transmitted, "CHARLIE JULIETT HERE.....WE'RE READY FOR DEPARTURE", and was cleared to line up on the main runway. At 1243 hrs Charlie Juliett took off without clearance and, at 1243.30 hrs, was instructed to contact Stansted. An indistinct acknowledgement was heard.

Throughout the exchange of RTF messages between Charlie Juliett and Cambridge Tower, the pilot appeared to be confused and had difficulty in understanding instructions. In direct contrast to his arrival, his RTF terminology was non-standard and at times his speech was indistinct. The Cambridge Tower controller, having observed the aircraft take-off without clearance and climb away "somewhat erratically", and also being under the impression that the pilot was a student, contacted Panshangar and reported his difficulties with Charlie Juliett. He further requested that the pilot telephone Cambridge after landing at Panshangar, and passed the take-off time as 1243hrs, with 2 hours endurance.

At 1250 hrs Stansted ATC observed an unidentified aircraft, squawking 4321 and indicating 2000 feet, enter the zone near Audley End and tracked it on radar whilst it manoeuvred down to about 800 feet agl around the Wethersfield-Sudbury area. (This contact was later identified and confirmed to be Charlie Juliett.) The aircraft continued manoeuvring in and out of the Stansted zone, causing an IFR departure to be temporarily delayed at 1332 hrs. At 1355 hrs Charlie Juliett commenced a series of random orbits of the Barkway VOR, at heights varying between 600 and 1400 feet, and the Stansted Airport

Police were informed. They in turn alerted the Hertfordshire Police and a police unit, equipped with a breathalyser kit, was despatched to Panshangar aerodrome to await the aircraft's arrival.

At 1438 hrs Stansted ATC radar lost contact with the aircraft at a position 2½ nautical miles due west of North Weald aerodrome, and heading south-west. At 1444.30 hrs Charlie Juliett called Panshangar and reported, "RETURNING TO YOU ER FROM CAMBRIDGE ER JUST TURNING FINALS NOW". The Panshangar A/G operator asked which runway the pilot intended to use, and on being told runway 30, advised, "YOU ARE LANDING WITH A SLIGHT TAIL WIND THEN, IT'S ZERO FOUR ZERO TEN KNOTS". The pilot did not acknowledge this transmission and, at 1446.10 hrs the A/G operator asked his position. He replied, "OVER HERTFORD". (The radar recording shows that at this time the aircraft was in fact in a low level turn over Boreham Wood.) At 1446.30 hrs the Panshangar A/G operator asked Charlie Juliett to report his fuel situation. The pilot replied, "PLENTY IN I WOULD THINK". At 1449 hrs the pilot transmitted, "I'M CRASHING I'M CRASHING PAN PAN I'M CRASHING".

At 1445 hrs the pilot of a Robinson 22 helicopter, callsign G-ROYY, had contacted Thames Radar reporting that he was just airborne from Elstree, and was routing towards Thames Haven. After checking the flight details, the Thames Radar controller asked the pilot if he had visual contact with a light aircraft, crossing him from right to left. The pilot replied that he had and that it was below him, at a fairly low level of about 500 feet. At 1446 hrs the helicopter pilot reported that the light aircraft was in a low level turn over Boreham Wood, and that he was following it. At 1449 hrs the helicopter pilot informed Thames Radar that the light aircraft had disappeared behind trees and that he believed that it had crashed. Shortly afterwards he saw the wreckage of Charlie Juliett and landed as close to it as possible. He went straight to the wreckage and after opening a jammed entry door, he switched off the master switch, removed the ignition keys and went to alert the emergency services. He returned to the wreckage to await their arrival, and endeavoured to ease the position of Charlie Juliett's pilot to ensure that his breathing was unobstructed. As he was folding the pilot's jacket he found a half bottle of vodka, with the cap loose. It was about two-thirds full. The emergency services arrived within a few minutes, and the pilot was transferred to hospital where he subsequently died from his injuries.

An examination of the accident site showed that the aircraft had been flying on a southerly heading of about 170° Magnetic when it had struck the branch of a tree some 25 feet above the ground. The aircraft had then rolled to its left and descended steeply, passing through the upper branches of a second tree whilst banked about 45° to the left, before striking the ground with its left wingtip. After the left wingtip struck the ground the aircraft had cartwheeled to its left, striking its nose on the ground after it had yawed through some 60°, before coming to rest facing the direction from which it had come.

The impact on the nose had deflected the engine and its mountings downwards/left and caused aft-displacement of the engine, foreshortening the foot-well zone of the cockpit by about 1 foot. Apart from this compression there had been no significant deformation of the cockpit and cabin structure. The rear fuselage, aft of the cabin, had been deformed consistent with the forces generated by the collisions of both the nose and the wingtip with the ground. An examination of the lap and diagonal type seat belts showed that neither had been subjected to a significant load, suggesting that the pilot may not have been wearing them at the time of the accident.

An examination of the propeller showed no leading-edge damage or any circumferential scoring of either face of the blades, one of which had been bent straight backwards from its root end. All the features observed indicated that the engine had not been delivering power at the time of impact.

There was no smell of fuel at the accident site and no fuel was visible through the fillers of either tank. The fuel selector was found selected to the right tank. Subsequent examination showed that there were no ruptures in the fuel system from which fuel could have leaked with the aircraft in the position in which it came to rest. The residual fuel in the tanks was collected from the water drain-points. 400 millilitres (ml) was drained from the right tank and 250 ml from the left. On this aircraft type, 1 US gallon of fuel in each tank is unuseable and fuel can only be drawn from one tank at any time.

Examination of the engine, flying controls and structure revealed no evidence of pre-impact failure. The general appearance of the aircraft indicated that it had been well maintained and the aircraft maintenance records were consistent with this assessment.

H.M. Coroner's Inquest into the circumstances of this accident was held at the Poplar Coroner's Court on 21 August 1991. Evidence was given that a blood sample taken from the pilot shortly after the accident showed an alcohol content of 325 mg/100ml. The offence of drunkenness in aircraft is defined in the Air Navigation Order (1989) Article 52 It does not specify that a person suspected of an offence under the Article be required to submit to tests for alcohol or drugs. The AAIB has recommended that the CAA initiate action to include the requirement for tests to determine offences under Article 52 within the legislation.