

Piper PA-28-161 Cherokee Warrior II, G-FLEN

AAIB Bulletin No: 2/98 Ref: EW/C97/11/2 Category: 1.3

Aircraft Type and Registration:	Piper PA-28-161 Cherokee Warrior II, G-FLEN
No & Type of Engines:	1 Lycoming O-320-D3G piston engine
Year of Manufacture:	1985
Date & Time (UTC):	6 November 1997 at approximately 1155 hrs
Location:	In the sea 1.35 nm south of Bournemouth
Type of Flight:	Training (First solo)
Persons on Board:	Crew - 1 - Passengers - None
Injuries:	Crew - Fatal - Passengers - N/A
Nature of Damage:	Aircraft destroyed
Commander's Licence:	Student Pilot (with Class III Medical Certificate)
Commander's Age:	45 years
Commander's Flying Experience:	29 hours (of which 26 hours were on type) Last 90 days - 25 hours Last 28 days - 10 hours
Information Source:	AAIB Field Investigation

The student pilot started his flying in July 1997 with a flying club at Bournemouth International Airport. A month later he transferred to another flying club and started his PPL course again. Throughout the months of September and October he flew with two of the club instructors and progressed well. By 3 November 1997 he was ready for a final solo check and on the morning of the 6 November he flew with the club Chief Flying Instructor (CFI) and was assessed as fit to fly solo but due to marginal weather conditions his solo flight was delayed until later in the day. By 1115 hrs the weather had improved. At 1125 hrs the student took off with the CFI to carry out one final circuit check. This was satisfactory so the CFI authorised the student to complete one circuit. He left the aircraft and went to the control tower to observe his student. At 1145 hrs the student took off from Runway 26 and carried out a normal right-hand circuit. As the aircraft approached short finals the trainee Air Traffic Control Officer (ATCO) cleared the student for a 'touch-and-go'. The supervising controller reminded the trainee ATCO that first solo students should land from their approach and the trainee then transmitted 'CLEARED TO LAND'.

The aircraft was seen to land normally, roll for a short while and then take off again. The CFI, who was standing behind the controllers, told them to 'leave him to it' believing that the student had forgotten that he should only do one circuit. After several moments the controller looked for the aircraft in the expected position to the north-west of the airfield and downwind in the circuit, but the aircraft was not visible. The CFI then sighted the aircraft to the south-west of the field. The supervising controller then took over from the trainee ATCO and called the aircraft, instructing the student to call 'downwind left-hand'. Initially there was no reply but the student eventually transmitted 'SEND MY APOLOGIES TO EVERYONE.' Believing that the student was apologising for making a mistake and disrupting the circuit traffic the tower controller used the student pilot's first name instead of the callsign in order to put him more at ease. The tower controller then called the radar controller and advised him of the situation. The radar controller reported that he had a primary radar contact approximately 3 nm south-south-west of the airfield heading south. He and the tower controller tried to call the aircraft on their respective frequencies but without success. At the same time the radar controller contacted another PA-28 aircraft positioned close to the Sandbanks Visual Reference Point. He asked that pilot to turn eastbound and look for a contact that was about to cross the coast 4 nm south of the airfield. The other PA-28 pilot complied with the request but could not establish visual contact.

Radar contact was lost as the student crossed the coast. The Coastguard was alerted at 1156 hrs and the Distress and Diversion cell at the London Air Traffic Control Centre were alerted at 1158 hrs.

The manager of a cliff top hotel in Bournemouth sighted the aircraft as it flew approximately 1 nm out to sea at high speed from west to east at an estimated height of between 100 and 200 feet above the surface. With the aid of binoculars he was able to see the aircraft bank 45° to the left and turn towards the coast. The aircraft then pitched nose down and rolled to present its underside in planform before it hit the sea in a near vertical nose down attitude.

The crew of a small boat also observed the impact and within approximately one minute were on the scene. Except for an oil slick on the surface there was no visible sign of the aircraft or pilot. An air and sea search later located the pilot within wreckage of the aircraft on the sea bed in approximately 15 metres of water.

Background information

The flying club instructor who flew the majority of the flights with the student assessed him as being of average ability and motivated to achieve his first solo by his birthday on 30 September 1997. Due to poor weather and slow progress however this was not possible. The student had then set his sights on two further significant dates and had asked his instructor to send him solo earlier than his ability would dictate. The instructor declined these informing him that he would only be sent solo when he had reached the required standard.

A briefcase, belonging to the student, was discovered in the flying club several hours after the accident. Documents within the case, signed by him and dated 30 October 1997, revealed that his primary objective for training to be a pilot was so that he could prepare himself to commit suicide in an aircraft crash.

Examination of aircraft

The wreckage of the aircraft was located on the sea bed at position N50° 41.95' W001° 49.58', i.e. some 1.35 nm south-south-east of Boscombe Pier at Bournemouth (5 nm to the south of

Bournemouth Airport). Recovery of the wreckage and the body of the pilot, which was still in the cockpit, was not attempted on the day of the accident due to adverse sea conditions. The following day however almost all of the wreckage was recovered by a team of police divers operating from a powered barge equipped with a hydraulically operated crane. After an initial inspection on deck, the wreckage was transported to the AAIB HQ.

Examination of the wreckage established that the aircraft had been structurally intact and complete prior to impact with the sea and that this impact had been at high speed, estimated at between 100 kt and 150 kt, with the aircraft in a steep nosedown attitude of 70° to 75° below the horizontal. There was evidence from the damage patterns that the aircraft may have been turning to the right at the time of impact and that significant quantities of fuel had been present in each wing fuel tank. Analysis of damage to the propeller indicated that it had been turning under a low level of power as it struck the water, but no evidence was found of any pre-existing defects within the engine. There had been no fire.

Examination of the aircraft's primary flying control systems revealed no evidence of pre-impact failure or disconnection and it was apparent that the flaps were up at the time. The nature and extent of the damage to the aircraft was not that to be expected from a controlled emergency ditching at relatively low speed.

The aircraft had been operated by the flying club since January 1997 and maintained by their parent company. It had been certificated in the Transport Category (Passengers) and held a valid Certificate of Airworthiness. Records indicated that all required maintenance had been carried out in accordance with the CAA approved Light Aircraft Maintenance Schedule CAA/LAMS/FW/1978 issue 2. The most recent maintenance, a 50 hr check, was carried out on 28 October 1997, some 9 flying hours before the accident. Prior to impact with the sea, the aircraft appeared generally to have been in very good condition.

Medical history

The pilot had a long medical history which included some evidence of suicidal tendencies. In July 1997 he had his initial medical examination for the purpose of obtaining his Private Pilot's Licence. At this examination he had not declared his previous psychiatric history and was issued with a Class III Medical Certificate by an Authorised Medical Examiner (AME).

Safety recommendation

A survey of accidents conducted by the staff of the RAF Department of Aviation Pathology who advise the AAIB on Pathology/medical matter, has revealed that there is a small number of pilots who conceal their medical history when applying for an Aviation Medical Examination. This matter has already been discussed at a CAA Aviation Medical Forum held in February 1995. Further discussions suggested that a pilot's General Medical Practitioner should be asked to endorse a pilot's application for an initial aviation medical examination so that the AME is fully aware of the applicant's medical history. This suggestion was not adopted as agreed practice for two reasons. Firstly there is no specific requirement for it under the ICAO or proposed JAA requirements and secondly many applicants do not have a General Medical Practitioner or would wish not to divulge their name.

Medical information regarding the mental health of this studentpilot had been documented since 1969. It is likely that the decisionby an AME to issue a Class III Aviation Medical Certificate wouldhave been influenced if access to this medical history been available.

It is therefore recommended that:

Recommendation 98-1:

The CAA Medical Branch should explore suitable methods wherebyAMEs have available the best possible medical history of an applicantfor the initial issue of an Aviation Medical Certificate.