

No: 10/86

Ref: 1b

Aircraft type and registration: Rand KR2 G-BKFV

No & Type of engines: 1 VW Conversion — 1834 cc piston engine

Year of Manufacture: 1982

Date and time (UTC): 15 June 1986 at 1202 hrs

Location: Crofty, near Swansea, Glamorgan

Type of flight: Private (pleasure)

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — 1 (fatal) Passengers — N/A

Nature of damage: Aircraft destroyed

Commander's Licence: Private Pilot's Licence

Commander's Age: 62 years

Commander's Total Flying Experience: Approximately 877 hours (of which about 37 were on type)

Information Source: AIB Field Investigation

The aircraft took off from Swansea Airport at 1116 hrs for a local flight. At 1157 hrs the pilot reported that he was at 2000 feet over Llanelli and requested a straight in approach to runway 15 at Swansea. Permission was given for the aircraft to position for a final approach to runway 15. The surface wind was 150°/10 knots.

At 1150 hrs a Cessna 182, G-DOVE, contacted Swansea ATC to confirm a precautionary landing due to an electrical problem. The controller offered the pilot of "VE" runway 15 or 22 and, in view of the aircraft's location to the north east of the airfield, runway 22 was accepted. Another aircraft in the circuit (G-AYBP) and the Rand KR2 (G-BKFV) were instructed to orbit in their existing positions in order to allow "VE" to make a priority landing. The airfield fire service was alerted and gliding activity was halted with the launch cables being recovered from runway 22.

At 1201 hrs the pilot of "FV" radioed that he was making an emergency landing. The controller, thinking that the aircraft was close enough to land at the airport, cleared it to land on runway 15. The pilot thereafter repeated that he was making an emergency landing in a field. No further communications were received from the aircraft. Meanwhile, the other orbiting aircraft (G-AYBP) saw the Rand aircraft ahead and crossing from left to right but slightly lower at a height estimated to be 500 feet. The Rand then turned right, pulled up and rolled to the right before pitching steeply nose down. The aircraft then dived almost vertically from about 300 feet into a field of long grass. The pilot of the orbiting aircraft remained overhead the accident site and was able to direct an ambulance and fire vehicles to the scene. He reports that there was no apparent sign of recovery from the accident aircraft's final dive.

Examination of the accident site showed that the aircraft had struck the ground in an approximately 35° nose down attitude, slightly left wing low, and with a small amount of rotation to the left. The landing gear was in the locked down position, a configuration that would have required the pilot to use both hands to operate simultaneously the landing gear lowering lever and the landing gear locking lever. Examination of the wreckage established that the aircraft was structurally intact, the propeller was not rotating, and that the fuel and magneto switches were selected ON. No fuel was found in the severely disrupted fuel tank or its associated pipework although there was a fuel smell in the area. Subsequent detailed examination of the wreckage revealed no fault with the airframe or flying controls that could have contributed to the accident. A strip examination of the engine did not reveal any fault that would have caused it to fail. The fuel system was examined in detail and a pipe union was found to be loose by $\frac{3}{4}$ of a turn. The firewall bulkhead, where this union was mounted, was clean in comparison to the immediate surrounding area which suggested that fuel had been leaking from the union. The union was of the compression type similar to that normally found in domestic water systems. There was no form of locking of the union.

The aircraft was based at Swansea Airport and had operated from there since its construction. The fuel available at Swansea is 100LL and Jet A1 but refuelling records did not show that the aircraft had uplifted fuel from this source. The aircraft, which was largely constructed of wood onto which polyurethane foam covered in Dynel had been glued, had suffered three reported accidents since its manufacture. Ultimately in October 1985 the propeller had struck the ground whilst the aircraft was landing and substantial damage to the engine firewall bulkhead was sustained as well as shock loading of the engine. Examination of the airframe and engine logbooks did not show any record of this or any other accidents, or what repair work had been undertaken.

The pilot had been medically examined on 6 June 1986 and was assessed as fit to hold a Private Pilot's Licence. Post-mortem examination showed the pilot's injuries to be consistent with the impact. There was no evidence of any prior incapacitation although it was noted that the pilot was not wearing the truss that he had been advised to wear when flying.