No: 8/87 **Ref: 1c**

Aircraft type and registration:	Jodel D112 G-BHIM	
No & Type of engines:	1 Continental A65-8 piston engine	
Year of Manufacture:	1958	
Date and time (UTC):	10 May 1987 at 1915 hrs	
Location:	Near Trefgraig, Gwynedd, North Wales	
Type of flight:	Private (pleasure)	
Persons on board:	Crew — 1	Passengers — 1
Injuries:	Crew — 1 (fatal)	Passengers — 1 (fatal)
Nature of damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	45 years	
Commander's Total Flying Experience:	297 hours (of which 107 were on type)	
Information Source:	AIB Field Investigation	

G-BHIM took off from Rhos Field, near Trefgraig, at about 1000 hrs on Sunday 10 May, and flew to Mona Airfield, Anglesey. It was refuelled, to full, with 7.3 imperial gallons (imp/gal) of 100LL aviation gasoline before taking off, at about 1240 hrs, and flying to Sleap Airfield, near Shrewsbury, where it landed at about 1345 hrs. After one hour, it left Sleap and returned to Mona, landing at about 1545 hrs.

The aircraft was again refuelled to full with 7.2 imp/gal from the same source as earlier. This was the last recorded use of the refuelling point before a sample was taken for analysis. No abnormalities were found. At about 1800 hrs, the aircraft left Mona and returned to Rhos Field where it landed at about 1825 hrs.

The passenger boarded the aircraft at Rhos Field and a photograph, taken just before it taxied, indicates that the fuel tank was approximately three-quarters full, enough for about 3 hours normal flying. It took off at about 1835 hrs and flew in the local area, returning at about 1900 hrs when it carried out a full stop landing on runway 14, turned, and took off again on runway 32. This was followed by a circuit and touch-and-go landing on that runway. The aircraft was seen to climb away to the north-west but, shortly afterwards, at about 1915 hrs, it crashed into an earth and stone bank about $\frac{1}{2}$ nautical mile from the field.

The weather in the area was reported as fine, with no wind and excellent visibility. Records show that the temperature was plus 9° Celsius and the dew point plus 4°.

The pattern of damage on the aircraft and on the ground indicated that, at impact, G-BHIM was in a very steep nose-down attitude, with the right-hand wing striking the ground first. It was apparent that the impact had occurred at a relatively low airspeed. The damage to the wooden

propeller indicated that it was rotating but under little or no power, and the throttle control was found fully closed. The aircraft's speed, attitude and lack of horizontal motion were entirely consistent with a stall/spin occurrence close to the ground.

Examination of the aircraft showed no evidence of any failure or restriction existing within the flying-control system prior to the accident, nor of any structural failure. A strip examination was performed on the engine, which had run for over 1920 hours since its last major overhaul, but although there were indications that the engine would no longer have been attaining its full rated power, there was no evident cause for any sudden loss of power.

Two anomalies were, however, discovered within the wreckage. The first was that the carburettor-heat control was found in the HOT position, although there was no evidence as to whether this had been applied because of a partial loss of engine power, or had been inadvertently left at HOT after the touch-and-go landing just before the accident.

The second anomaly concerned the fuel cock (figure 1), originally manufactured by Le Bozec in France, which is located immediately under the fuel tank and is operated by reaching forward under the instrument panel. The operation is that the plunger (A) is moved downwards, within the Barrel (B), to allow fuel to flow to the carburettor: the travel of the plunger is restricted only by a grubscrew (C) located within a slot (D) on the plunger. On G-BHIM, however, the plunger (E) was found separated from its barrel and it was apparent that the top of the slot (F) had been worn away, allowing the plunger to extend further, and the grubscrew to wear a groove along the cork plug. It could not be demonstrated conclusively that the plunger had been displaced from the barrel in flight, rather than in the impact, but the physical evidence suggests that even a light disturbance would have been sufficient to provoke a leakage of fuel.

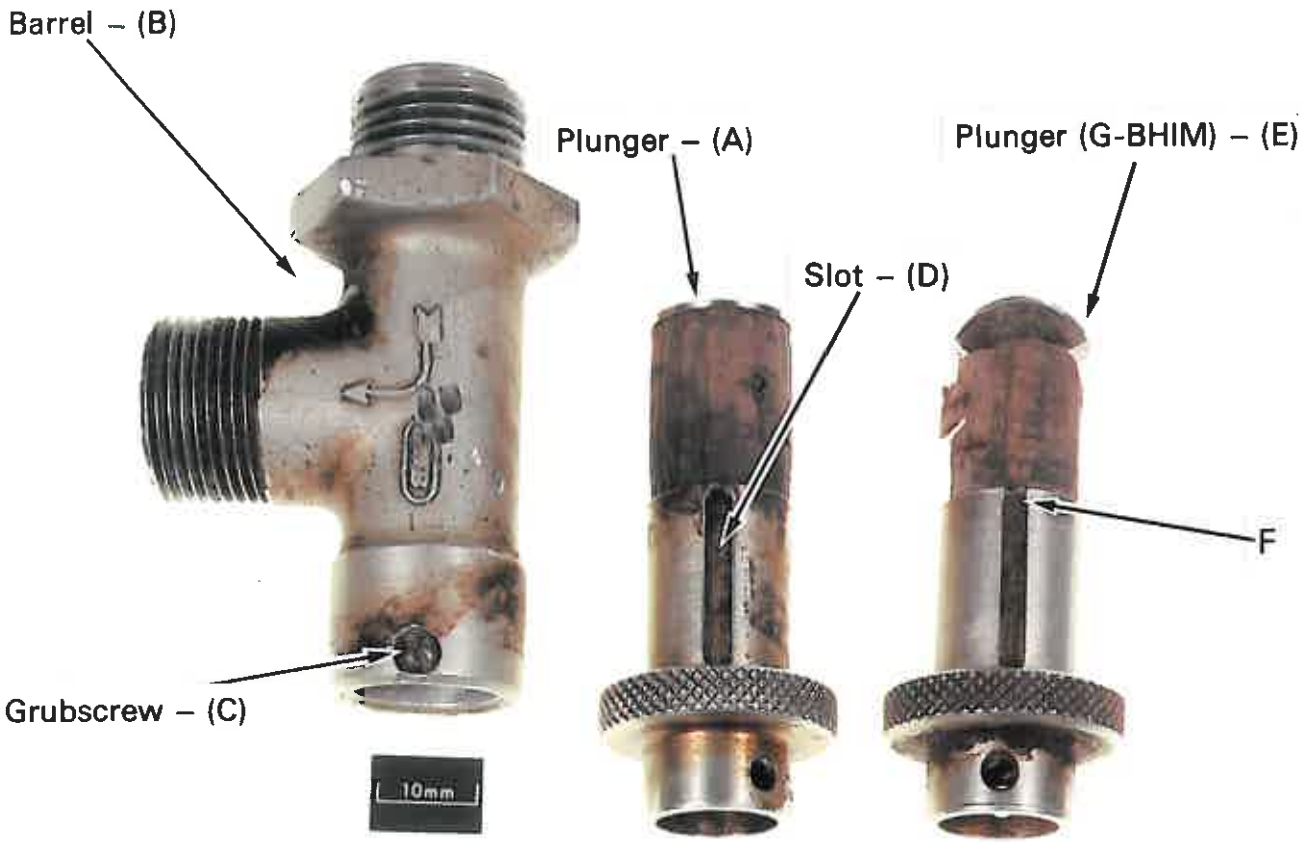

Figure 1 – Fuel Cock (G-BHIM)