

No: 9/86

Ref: 1b

Aircraft type and registration: Grob G109B G-WAVE

No & Type of engines: 1 Grob 2500 E1 piston engine

Year of Manufacture: 1985

Date and time (UTC): 26 July 1986 at 1221 hrs

Location: LND VOR, 247° Radial, 20.5 nm DME

Type of flight: Private (pleasure)

Persons on board: Crew — 1 Passengers — 1

Injuries: Crew — None Passengers — None

Nature of damage: Minimal damage on ditching, slight damage to propeller cowling, wheel spats, wing and tailplane during salvage

Commander's Licence: Self Launching Motor Glider Private Pilot's Licence

Commander's Age: 49 years

Commander's Total Flying Experience: 109 hours fixed wing light aircraft (of which 77 were on type)
675 hours gliding experience

Information Source: Aircraft Accident Report Form submitted by the pilot and AIB examination of the aircraft.

The aircraft had taken-off from the airfield at St Mary's, Isles of Scilly, following which it climbed to 2500 feet amsl overhead before setting course for the Lands End VOR beacon. The over-water time was estimated by the pilot to be 16 minutes and when approximately half way across, having just advised air traffic control at St Mary's of his position, a total loss of engine power occurred. As Lands End was not yet in view the pilot elected to return to the Islands, which were clearly in sight, and advised St Mary's ATC of the situation and his intentions.

With the propeller windmilling, the pilot attempted to re-start the engine, but without success. At a height of approximately 200 feet, a final ditching call was transmitted, the aircraft was turned into wind, the systems were shut down and the propeller was feathered prior to ditching. A soft water contact was achieved at a "ground" speed estimated to have been 25 knots, with the aircraft remaining upright and settling only slightly in the water. The pilot and passenger, who were wearing life jackets, were rescued by a helicopter from RNAS Culdrose and the aircraft was towed to St Mary's harbour by the local lifeboat. The weather at the time was reported as wind 290°/10—15 knots, temperature +18°C, cloud 5 oktas at 3000 feet.

Subsequently, the aircraft fuselage was transferred to the AIB facility at RAE Farnborough where a detailed examination of the engine and its systems were carried out. No pre-impact abnormalities were discovered until the ignition system was examined. This revealed that partial breakdown of the coil and condenser of the Slick type 4230 magneto had occurred, a fault that could not readily be attributed to the salt water contamination generally present throughout the engine. During a post accident test, the magneto ran for 12 minutes before spark failure occurred

and then spasmodically following periods of rest. The magneto, the only one fitted to the engine, had accrued 159 hours since new.

During the investigation, it became apparent that the failure on this type of magneto was not unique and that during the last 4/5 years at least ten other similar occurrences are recorded.