

No: 9/91

Ref: EW/G91/07/21

Category: 1c

Aircraft Type and Registration: Cadet III Motor Glider, G-BPCW

No & Type of Engines: 1 Volkswagen 1834 cc piston engine

Year of Manufacture: 1990

Date & Time (UTC): 14 July 1991 at 1520 hrs

Location: Plantation Farm near Belford, Northumberland

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Landing gear damaged and propeller blade fractured

Commander's Licence: Private Pilot's Licence

Commander's Age: 58 years

Commander's Flying Experience: 850 hours (of which 16 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot and AAIB inquiries

Following an uneventful flight of a little over an hour by the owner, another pilot flew the aircraft. After a short taxi he took-off from a from a hard runway at Brunton Airfield, Northumberland, for a flight to Millfield, a projected flight time of around one hour. The weather was good with an estimated wind of 15 kt from around 280°M, unlimited visibility, no cloud below 12,000 feet and an ambient temperature of 18°C. Take-off performance appeared normal, and at around 400-500 feet aal on the climb the pilot reportedly throttled back slightly in accordance with standard procedures established by the owner.

Around 15 minutes into the flight the pilot noticed that the cylinder head temperature (CHT) gauge was indicating 200°C, the allowable limit. He commenced a shallow descent but the CHT increased further and the engine began to run roughly so the aircraft was turned back towards Brunton Airfield. The engine then began to lose rpm so the pilot decided to make a precautionary landing and selected a field. However, as the aircraft passed over a field of standing wheat the engine stopped and, as the pilot considered that it would be hazardous to attempt to make the chosen field, he put the aircraft into a steep descent and landed in the wheat field. Markings reportedly indicated that the ground arrival was

very steep with virtually no subsequent ground run. The landing gear suffered considerable damage and one propeller blade was broken.

The aircraft is a home conversion to a powered glider of an ex-RAF Kirby Cadet T31 glider, using a four-cylinder air-cooled Volkswagen 1834 cc engine. The aircraft had been inspected by a PFA Inspector and issued with a Permit to Fly and had accumulated a total of 19 hours flight time.

The aircraft owner, who had been responsible for the conversion, reported that early operation had shown a tendency for the aft right cylinder of the engine to overheat in the event of prolonged taxi or high power demands in flight. Cooling airflow for the powerplant is provided by a combination of propeller wash and slipstream. The owner had installed a CHT gauge that indicated the temperature of the aft right cylinder and had found that this was maintained at normal levels by operating the engine at 3100 rpm for take-off, reducing to 2900 rpm at around 400-500 feet aal on the climb out and using a maximum of 2900 rpm for cruise. The cause of the engine overheat and power loss has not been established.