

No: 2/91

Ref: EW/G90/12/07

Category: 1c

Aircraft Type and Registration: Sonera II, G-BJLC

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

Year of Manufacture: 1990

Date and Time (UTC): 16 December 1990 at 1300 hrs

Location: Duchy Farm, Caldecote, Rushden, Northamptonshire

Type of Flight: Private

Persons on Board: Crew - 2 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Minor damage to both wings, main landing gear and a barbed wire fence

Commander's Licence: Airline Transport Pilot's Licence

Commander's Age: 55 years

Commander's Total Flying Experience: 16,000 hours (of which 4 were on type)

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

The purpose of the flight was to obtain some performance figures at maximum all-up-weight as part of the PFA test flight schedule and provide one of the owners with some dual conversion flying.

After approximately one hour of flying, during which general handling, timed climbs and stalls had been carried out, and whilst in level flight at 1000 ft, the engine mis-fired and lost a small amount of power. Within a few seconds of the start of the mis-firing the engine began to run very roughly, at about half power, and extreme vibration initiated. The application of carburettor heat and changes of throttle setting had no effect in reducing the vibration or restoring the engine power. The aircraft was positioned for a forced landing in the most suitable field that was immediately available. The touch-down was made approximately 100 yards into the field but the ground roll was completed in an adjoining field after passing through a barbed wire fence and associated post.

The engine was still running when the aircraft came to rest. Approximately 2 minutes after coming to rest the engine (which had been left running) was run up to full power and found to perform in a satisfactory manner, with no abnormal vibration. It was noted that the fuel tank was approximately half

full. Subsequent examination and testing of the engine, and aircraft fuel system, found no faults that would have given the symptoms which were encountered.

A weather aftercast was provided by the Meteorological Office and the following information is based on an upper sounding taken at 1200 UTC on 16 December 1990:

(All heights are above mean sea level, winds are in degrees true and knots and temperatures in degrees Celsius.)

Synoptic situation: An anticyclone of 1037 mb centred over Northern Scotland was slow moving and maintained an easterly flow over the area.

Visibility: 10 km

Weather: Nil.

Cloud: BKN SC sheet with a base between 1600 and 1800 ft.

Mean Sea Level Pressure: 1035 mb.

Zero Degree Isotherm: 1000 ft.

Winds:

Surface	090/08
1000 ft	100/12
2000 ft	100/18

Temperatures and relative humidity:

Surface (1035 mb)	PS3	75%
450 ft 1020 mb	PS3	81%
1050 ft 1000 mb	PS1	77%
1650 ft 980 mb	MS1	84%

When the 1050 ft temperature and relative humidity (RH) was plotted on the carburettor icing probability chart, serious icing at any power was predicted.