

AAIB Bulletin No: 6/94

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Category: 1.3

Aircraft Type and Registration: Denney Kitfox Mk 3, G-BURB

No & Type of Engines: 1 Rotax 582 LC piston engine

Year of Manufacture: 1993

Date & Time (UTC): 18 April 1994 at 1750 hrs

Location: Bishop's Cleeve, near Cheltenham, Gloucestershire

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - Serious Passengers - N/A

Nature of Damage: Damage to landing gear mounting structure, propeller and tail fin

Commander's Licence: Private Pilot's Licence

Commander's Age: 38 years

Commander's Flying Experience: 205 hours (of which 15 were on type)
Last 90 days - 10 hours
Last 28 days - 2 hours

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

Approximately 25 minutes after taking off from Wellesbourne Mountford Airfield, whilst cruising at 1,700 feet, the engine stopped without warning. The pilot pumped the primer in an attempted restart, but the engine only ran momentarily. The pilot selected a field but underestimated the power-off sink rate, with the result that the aircraft was in danger of striking a hedge that bordered the field. The pilot therefore aimed the aircraft at a gap in the hedge, but failed to see a barbed wire fence across the gap. The landing gear struck the fence and the aircraft nosed over into the field. The pilot, who had been restrained by a four-point harness, vacated the aircraft through the door and was subsequently admitted to hospital with a chest injury.

In excess of 8 gallons of fuel were drained from the aircraft whilst it was inverted, most of it from the left wing tank, the filler cap of which was missing. The cap was subsequently found on the taxiway at Wellesbourne Mountford. The aircraft fuel system consisted of separate tanks in the wings which fed into a common line supplying a reservoir behind the instrument panel. The filler caps are equipped with pitot-like probes which result in the tanks being slightly pressurised when the aircraft is in flight,

Thus the loss of a filler cap would result in a reduction in the 'head of fuel' at the engine. However, it was not clear why this should have resulted in a sudden and complete power failure so long after becoming airborne. The pilot stated that the fuel contents indications at the time of the engine failure were 'three-quarters full' and 'nearly full' respectively for the left and right tanks.

Subsequent to the accident, the engine was successfully run at low rpm, since the pilot did not wish to risk additional damage by operating it at higher power settings. The fuel system, including the filter, was examined with no evidence of a blockage or debris being found. However the possibility of a total blockage by a large piece of debris, which was subsequently flushed out while the aircraft was inverted after the accident, could not be precluded.

The engine is being sent to the UK Rotax agent for further investigation. Any findings pertinent to the accident will be published as an addendum in a future AAIB Bulletin.