

AAIB Bulletin No: 6/93

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Category: 1c

**Aircraft Type and Registration:** EAA Biplane, G-BPUA

**No & Type of Engines:** 1 Lycoming O-235-C piston engine

**Year of Manufacture:** 1986

**Date & Time (UTC):** 17 April 1993 at 1805 hrs

**Location:** Orchard Farm, Lichfield, Staffordshire

**Type of Flight:** Private

**Persons on Board:** Crew - 1                      Passengers - None

**Injuries:** Crew - None                      Passengers - N/A

**Nature of Damage:** Landing gear collapsed, lower wings detached, forward fuselage damaged and propeller broken

**Commander's Licence:** Private Pilot's Licence

**Commander's Age:** 38 years

**Commander's Flying Experience:** 2,703 hours (of which 19 were on type)  
Last 90 days - 7 hours  
Last 28 days - 4 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot, AAIB enquiries with the EAA, and meteorological aftercast from the Meteorological Office

The pilot had been asked by the owner to inspect and test fly the aircraft with a view to renewing the Permit to Fly Certificate. After a satisfactory inspection and engine ground run, the pilot prepared to carry out an airtest.

All the pre-flight checks were carried out satisfactorily, including an engine power check. The pilot estimated the aircraft's take-off weight as being 1,344 lb. The take off was commenced on Runway 30 (approximately 1,100 feet in length) with full engine power applied and the aircraft responded normally. The tail lifted and the aircraft appeared to accelerate at a normal rate. The aircraft became airborne and continued to accelerate. A normal procedure for this aircraft type is to fly the aircraft close to the ground by pushing the stick forward against the pitch trim until 70 kt is achieved. However, when about halfway down the runway, at an indicated airspeed of about 60 kt, the pilot noticed the aircraft decelerate. The aircraft settled onto the ground and ran through the boundary fence and hedge. The pilot had not been aware of any change in engine note, although he later commented

that this type of aircraft with the 108 HP engine does have a marginal performance using almost 100% power at 80 kt cruise.

The pilot's assessment of the cause of the accident was that the reduction of engine power had possibly been caused by either a magneto failure or poor fuel, ie mogas that had been standing for some time.

An aftercast of the weather at the time gave a surface wind of 270° at 10 kt.

The runway, which was a grass strip, was very soft due to the effects of heavy rain over the days preceding the accident flight. Inspection of the runway surface following the accident showed that the aircraft's wheels had left two to three inch deep impressions in the surface.

The Experimental Aircraft Association (EAA), who have the design authority for this aircraft, have stated that they have conducted no test flights on this type to determine its short field capability, or its crosswind capability, but they assess that under normal 'nil wind' conditions on a hard surface runway this type would probably clear a 35 foot obstacle in 7-800 feet. The 1982-83 Jane's 'All the World's Aircraft' shows the maximum take-off weight for this aircraft type as 1,150 lb.

No engineering reason has thus far been identified which would have caused a partial engine failure.