

**No:** 9/88

**Ref:** EW/C1067

**Category:** 1c

**Aircraft Type and Registration:** Laser Aerobatics Acro Z200, G-ZZIM

**No & Type of Engines:** 1 Avco Lycoming AEIO-360-A1E piston engine

**Year of Manufacture:** 1985

**Date and Time (UTC):** 23 April 1988 at 1055 hrs

**Location:** One mile east of Tempsford, Bedfordshire

**Type of Flight:** Private

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

**Injuries:** Crew - 1 (Fatal)              Passengers - N/A

**Nature of Damage:** The aircraft was destroyed

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

**Commander's Age:** 28 years

**Commander's Total Flying Experience:** 288 hours (of which 30 were on type)

**Information Source:** AAIB Field Investigation

The aircraft took off from the farm airfield in Cambridgeshire where it was based, at 1040 hrs. It was the pilot's intention to carry out a series of practice aerobatics in the local area. The weather was good with very little cloud, bright sunshine and a wind of 090°/15-20 kts.

Following a short series of general aerobatic manoeuvres, the aircraft was seen to enter a spin at about 3000 feet, in a direction thought by the witness to be to the right, from which it recovered in about three turns. However, the nose of the aircraft was not lowered nor was engine power heard to increase and, almost immediately, it entered a spin to the left, from which it did not recover before impact with the ground. Examination of the accident site and wreckage indicated that the aircraft was rotating to the right on impact, rather than the left. There was no fire and the pilot's full restraint harness withstood the force of the impact.

The aircraft came to rest on the embankment of the Kings Cross to Edinburgh railway line, after striking the overhead power cables and breaking one of them. Evidence of wire strikes was found on the propeller blades, spinner, engine cowling and right undercarriage leg and in addition, signs of electrical arcing were visible on the spinner. The aircraft struck the track in a wings level, slightly nose down attitude and continued to rotate through 90° approximately, before coming to rest. The low degree of damage to the propeller blades was indicative of a low power setting at impact.

A witness, himself a pilot, stated that whereas the first spin entry looked to be very precise and deliberate, the second, which began at around 1500 feet, was not and looked comparatively ragged.

Neither the pre-flight inspection of the aircraft carried out by the other part owner, nor the subsequent examination of the wreckage conducted by AAIB, revealed evidence of any pre-impact malfunction of the controls, the engine or the airframe.

The post-mortem examination also failed to provide any evidence which might suggest a cause of the accident but did confirm that the pilot's full restraint harness had been worn. It also suggested that the accident was likely to have been survivable had the pilot been wearing a protective helmet.

AAIB have recommended that the CAA give consideration to a requirement that pilots flying aerobatics wear protective helmets.