

**No: 8/89**                      **Ref: EW/C1117**                      **Category: 3**

**Aircraft Type and Registration:**                      MBA Tiger Cub 440, G-MMPV

**No & Type of Engines:**                      One MBA modified Fuji Robin EC44PM piston engine

**Year of Manufacture:**                      N/A (Supplied in kit form--uncompleted)

**Date and Time (UTC):**                      19 June 1989 at 1145 hrs

**Location:**                      Wingmore, Elham, Kent

**Type of Flight:**                      Unintentional (Taxying trials)

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

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

**Nature of Damage:**                      Aircraft destroyed

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

**Commander's Age:**                      28 years

**Commander's Total Flying Experience:**                      80 hours ( of which none were on type )

**Information Source:**                      AAIB Field Investigation

The pilot had constructed the three axis control microlight biplane and, although the aircraft had been registered, it had not been submitted for airworthiness approval. He had based the aircraft at a farm airstrip and had previously carried out taxiing trials up and down that strip. During one such trial the aircraft became momentarily airborne and, in the attempt to replace it on the ground, a severe swing developed and it ran into the airstrip boundary fence. This was the pilot's only experience of flying this type of aircraft prior to the accident flight.

The pilot was a fairly frequent companion of both the owner of the strip and of a locally based licensed engineer (Microlight aircraft) who, when so asked, advised him on matters of construction and airworthiness. About a week prior to the accident, the engineer reminded the pilot that he should not fly the aircraft until it had been properly certificated. Furthermore, as the aircraft lined up on the north-northeasterly strip for what was to become the accident flight, the strip owner confirmed with the pilot that this was to be only a taxiing trial.

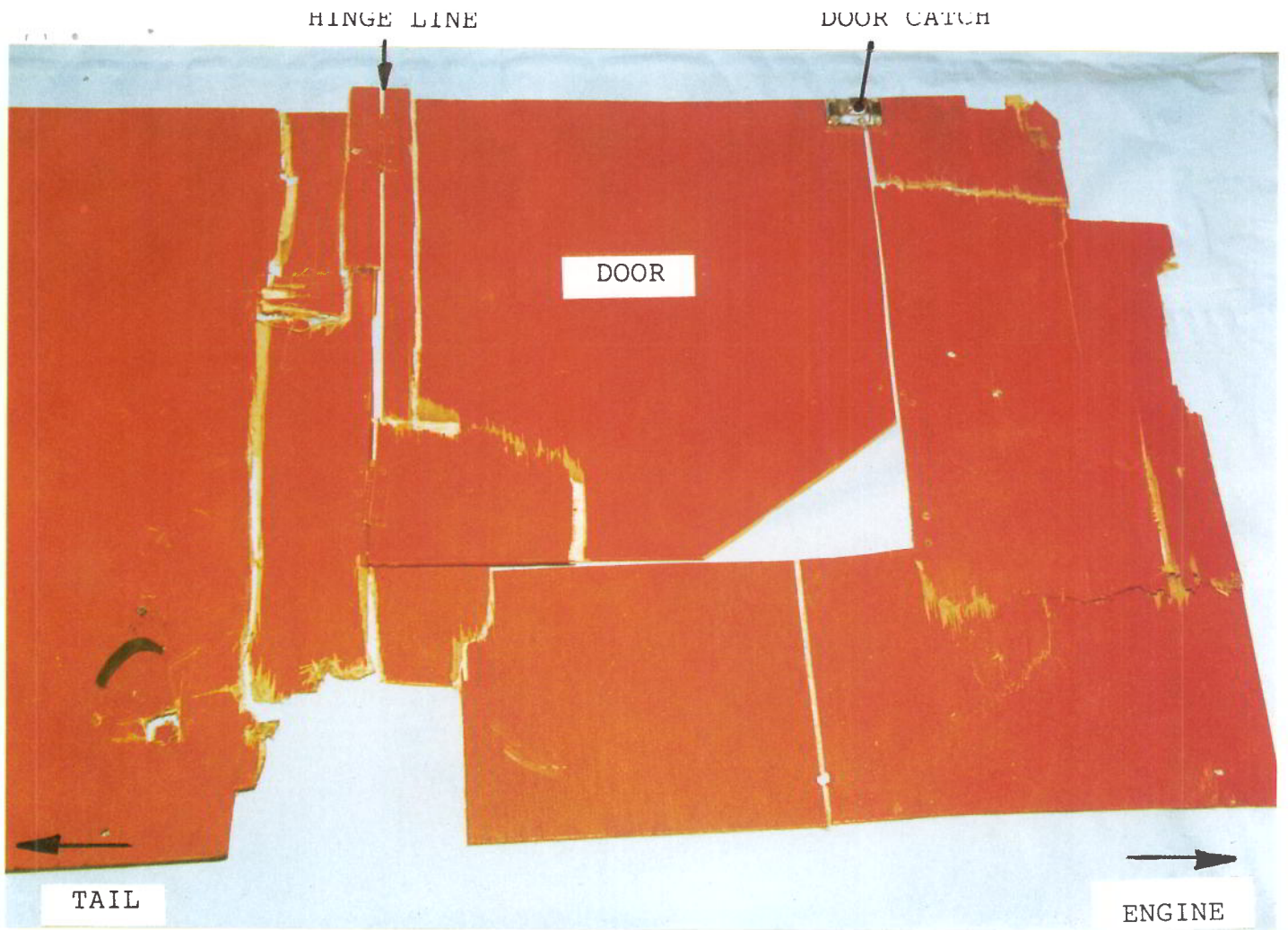
The owner then walked to his tractor positioned behind some trees a little over half way up and to the right of the strip. The threshold of the strip was then hidden from the owner's view by the trees but, a few seconds later, his attention was drawn to the aircraft as it passed abeam his position some 30 feet in the air in a steady and stable climb. The next witness to the progress of the flight lived in a house

directly under the flightpath of the downwind leg of a rather wide circuit. The aircraft passed over the house heading due south in level flight with constant power on the engine but, some 100 metres later, for a few seconds it began to roll from side to side. It then remained stabilised in level flight for one or two seconds before rolling 90° to the right and again levelling the wings. Over the 400 metres remaining to the accident site, the aircraft was seen to descend to the apparent height of some telegraph poles, still with wings level and with unchanged engine note, where it again rolled to the right and spiralled vertically into the ground. There was no fire but the emergency services attended the accident immediately that they were called, when the site had been identified.

Evidence from the accident site showed the aircraft to have impacted at approximately 35 mph, pitched 90 degrees nose down and rotating to the right. It also showed that the pilot's shoulder harness was incomplete and therefore unuseable: The buckles were later found in the hangar where the aircraft had been stored. Because of the nature of the impact on the propeller it was not possible to assess the engine power. All parts of the aircraft were found at the impact site indicating that nothing had broken and fallen away prior to the impact. There was evidence of fuel being present in the fuel tank at impact. The cockpit door, normally fitted to the right side of the forward fuselage, was found resting on the trailing edge of the left wing.

The wreckage was taken to the AAIB at Farnborough where a more detailed examination was carried out. The area surrounding the cockpit door was assembled (Photograph No 1) and there was very good evidence that the door had been open at impact. This door was mounted with its hinge line to the rear which, if the retaining catch (Photograph No 2) failed, would allow the door to open outwards into the slipstream, possibly fouling the wing rigging wires and producing a very strong airbrake effect on the right side. The design of the door and catch was such that if the door was subsequently slammed closed, there appeared to be nothing to prevent the door passing through the closed position and swinging inwards and rearwards onto the pilot's right leg. Evidence from the wood failures suggested that at impact the door was open inwards. Examination of the throttle system indicated that at impact the throttle was set at a position that would give 89% of the engines full power rpm..

A recommendation was made that the CAA should re-consider the Certification or Approval of rear-hinged doors and the standard of the door catches on microlight aircraft.



PHOTOGRAPH No 1



PHOTOGRAPH No 2