

**Aviation Safety Investigation Report
198402364**

Mitchell U2

16 December 1984

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: 198402364
Location: Carranballac VIC
Date: 16 December 1984
Highest Injury Level: Fatal
Injuries:

	Fatal	Serious	Minor	None
Crew	1	0	0	0
Ground	0	0	0	-
Passenger	0	0	0	0
Total	1	0	0	0

Aircraft Details: Mitchell U2
Registration: Not Required
Serial Number:
Operation Type: Pleasure
Damage Level: Destroyed
Departure Point: Carranballac VIC
Departure Time: 1740 Approx
Destination: Carranballac VIC

Approved for Release: 8th July, 1985

Circumstances:

The aircraft was a tail-less homebuilt ultralight with a cantilever wing. It was reported that the pilot had made several flights during the day without apparent incident. On the subject flight the aircraft was observed to begin a gentle turn to the right, around a sports oval. The wings were seen to suddenly fold upwards, the right wing broke away and the remainder of the aircraft fell to the ground. It was determined that the wooden main spar of the wing had failed at the point where the right landing gear was bolted to the main spar caps. Tests on the wood revealed that it was not of aircraft quality, although the plans for the aircraft specified that aircraft quality spruce was required. The wood was not protected by paint or varnish from seasonal changes in temperature or moisture. The plans also called for the wing nose ribs to be constructed from styrafoam, however the investigation discovered that the material used was expanded polystyrene. This material is less rigid than styrafoam. The pilot had purchased the aircraft from interstate in a partially constructed condition, with the main spar and the nose ribs already completed. He was evidently unaware of the poor quality of the material used in the construction, which led to the failure of the structure under normal flight loads.