Aviation Safety Investigation Report 199000034

Airborne Edge Trike

2 January 1990

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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: 199000034 **Occurrence Type:** Accident
Location: 14 km North of Coleambally NSW
Date: 2 January 1990 **Time:** 1105
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: Airborne Edge Trike
Registration: Not registered
Serial Number: AB-532-000
Operation Type: Private
Damage Level: Destroyed
Departure Point: Talinga Station NSW
Departure Time: 1045
Destination: Talinga Station NSW

Approved for Release: 10th May 1990

Circumstances:

The pilot was assessing a new powered trike hang glider which had greater performance capabilities than his own aircraft. He successfully completed several circuits before landing for a short period about one kilometre from the witnesses. The aircraft became airborne again, climbed to about 100 feet and performed a series of short climb and descent manoeuvers. It then entered a very steep angled climb, described by the witness as 80 degrees. At about 300 feet, the sound of the engine ceased, the nose pitched down and the aircraft entered a series of three "tuck and tumbles", similar to an uncontrolled outside loop. On the third tuck and tumble, both wings failed and came together and the aircraft fell straight to the ground. At some point, the emergency parachute handle was pulled but there was insufficient altitude remaining and the parachute did not deploy from the container. No pre-existing defects were found with the aircraft. The investigation determined that during the break-up sequence the seat area separated from the section containing the engine, which was still running at ground impact. Ground testing of the engine revealed no defects and the engine continued to run satisfactorily up to simulated angles of 35 degrees of climb. This, together with the 50 degrees freedom of movement for the control bar, would allow a very steep apparent angle of climb to ground observers. It is most likely that the pilot, once the aircraft attained this attitude, closed the throttle and pulled back on the control bar. This probably initiated the tuck and tumble sequence. It was found that the parachute was attached to the engine, not the seat frame, and that the parachute's performance rating did not match the performance rating of the aircraft.

Significant Factors:

The following factors were considered relevant to the development of the accident

1. The pilot's experience was on considerably lesser powered and lower performing ultra-light aircraft.

2. Whilst attempting a very steep climb, the pilot applied incorrect recovery technique.3-

Reccomendations:

1. It is recommended that the Civil Aviation Authority (CAA) and the Australian Ultralight Federation (AUF) review training standards and experience requirements for ultra-light pilots intending to upgrade to aircraft with significantly enhanced performance characteristics.

2. The AUF should encourage manufacturers of trike aircraft fitted with parachutes to ensure that the emergency parachute is attached to the seat frame, and is compatible with the performance of the aircraft.