Aviation Safety Investigation Report 199300950

Ron Wheeler Aircraft Pty Ltd Scout Mark 3

18 April 1993

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Aviation Safety Investigation Report

199300950

Occurrence Number: 199300950 **Occurrence Type:** Accident
Location: Bindoon
State: WA **Inv Category:** 3
Date: Sunday 18 April 1993
Time: 1100 hours **Time Zone** WST
Highest Injury Level: Fatal
Injuries:

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

Aircraft Manufacturer: Ron Wheeler Aircraft Pty Ltd
Aircraft Model: Scout Mark 3
Aircraft Registration: REG_1993009501 **Serial Number:**
Type of Operation: Miscellaneous Other
Damage to Aircraft: Substantial
Departure Point: Bindoon WA
Departure Time: 1100 WST
Destination: Bindoon WA

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Ultralight Student		50

Approved for Release: Saturday, August 28, 1993

The aircraft had been stored in a hangar/shed, in a partially dismantled state for about 4 months. The pilot assembled and rigged the aircraft with the help of a person not familiar with aviation, and without reference to any qualified person or documentation. The pilot then boarded the aircraft, started it and taxied for takeoff. The takeoff appeared normal and the aircraft turned 90 degrees to the right at the upwind end of the runway. During the climb, at about 300 feet above ground level, the aircraft was seen to adopt a steep right wing low attitude and enter a spiral descent to ground impact.

The pilot was rescued from the wreckage and taken to the hospital, where he later died. He was not wearing a helmet during the flight.

Inspection of the wreckage revealed a broken wooden plug in the wing warping rod, where it attaches to the forward part of the right wing. The remains of the plug were found partially withdrawn from the rod end and an inspection of the left wing warping rod revealed the wooden plug partially withdrawn from its rod end by an amount similar to that found in the right wing. Microscopic analysis of the broken plug showed that the plug had been broken prior to the ground impact and that its material, which did not meet the manufacturer's specifications, had also degraded after lengthy exposure to the environment.

The plug failure, alone, should not have resulted in the loss of control of the aircraft. The aircraft is controllable with an adjustment of the position of the controls to compensate for the loss of the warping rod.

No other defects were found in the aircraft which could have contributed to the loss of control and subsequent crash.

The pilot's log book contained no reference to prior experience in flying the Scout aircraft, and indicated that he was inexperienced in operating ultralight aircraft. Anecdotal evidence suggested that he had more total hours than recorded in the log book and also had some flying experience in the Scout, about two years prior to the crash.

The pilot had been solo-checked eight months prior to the crash and his log book indicated that he had flown, unsupervised, on many occasions since that flight check, in contravention of the Australian Ultralight Federation Operation Manual requirements.

The wind on the ground at the time of the take off was westerly at about 5 knots and was likely to have been stronger above tree top level. As the pilot turned away from the take off strip, he probably would have had a tailwind component.

It is probable that the wooden plug broke after take off. The pilot lost control following the failure, either because of inexperience, or he was distracted by the failure and allowed the speed to decrease to the stall speed as the aircraft climbed. The rudder is normally used for primary roll control of the Scout and if the pilot had not been aware of this, he may have aggravated the situation by using other recovery techniques.

Safety Actions:

The Bureau of Air Safety Investigation has made the following recommendations:

1. That the Civil Aviation Authority, in consultation with the Australian Ultralight Federation;

i) Advise owners of Wheeler "Scout" Mk3 ultralight aircraft to examine the wing warping control attachments and replace any suspect parts, and

ii) As a matter of urgency complete and distribute the AUF Technical Manual.

2. That the Civil Aviation Authority research the wearing of helmets in ultralight operations with the view to determining if regulation in this area is warranted.

3. That the Civil Aviation Authority;

i) Examine its procedures for surveillance of sport aviation groups to ensure that the standards required by the regulations are being met;

ii) Actively pursue breaches of regulations or operating procedures, and, in conjunction with the Australian Ultralight Federation,

iii) Maintain an ongoing education programme of all ultralight operators with regard to their privileges and responsibilities under the Civil Aviation Orders and the AUF Operations Manual.

The following Safety Advisory Notices have been sent to the Australian Ultralight Federation:

1. The Australian Ultralight Federation should consider reminding all ultralight operators of;

i) The dangers associated with substituting substandard parts in their aircraft, and,

ii) The dangers associated with not maintaining their aircraft to manufacturers' specifications.

2. The Australian Ultralight Federation should emphasise the potential safety benefits in wearing helmets during ultralight operations.