

1. LOCATION OF OCCURRENCE

Berwick, Victoria.	Height a.m.s.l. (ft) 87 feet	Date 5.1.70	Time (Local) 1400	Zone EST
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THE AIRCRAFT

Make and Model DH-82A "Tiger Moth"	Registration VH-TIG	Certificate of Airworthiness	Valid from 10.4.68	Valid to 9.4.77
Registered Owner P. A. Williams and H.R. Murphy, 200 Buckley Street, Essendon, Victoria.	Operator Groupair Pty. Ltd., P.O. Box 76, Berwick, Victoria.	Degree of damage to aircraft Substantial		
Defects discovered See Attached Sheet		Other property damaged Nil		

3. THE FLIGHT

Last or intended departure point Berwick	Time of departure 1355	Next point of intended landing Departure Point	Purpose of flight Conversion Training	Class of operation Private
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THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
Peter Laurence MAY	Pilot-in-Command	25	Commercial	38	1422	Nil
John Leo DEVLIN	Pilot	28	Commercial	2	327	Nil

5. OTHER PERSONS (All passengers and persons injured on ground)

Name	Status	Degree of injury	Name	Status	Degree of injury

6. CONTRAVENTIONS OF REGULATIONS AND ORDERS

Regulation or Order No.	Nature of contravention

RELEVANT EVENTS

The aircraft had been re-built during April, 1968 and a maintenance release inspection had been carried out on 30th August, 1969. The aircraft had flown 129 hours since the re-building and had done 140 landings. At the time of the accident it had flown some 35 hours since the issue of the maintenance release. The aircraft was engaged in a period of circuits and landings and after touching down on the fourth landing, the pilot-in-command took over the controls in order to demonstrate crosswind technique. He applied full engine power for a go-around and at a speed of about 40 knots the starboard undercarriage leg collapsed, the nose of the aircraft dropped and it slewed to the right. The aircraft came to rest on its nose and starboard wing heading some 90 degrees to the right of the intended take-off path.

The undercarriage had collapsed because of the fatigue failure of the lug of the eye bolt supporting the upper end of the starboard radius rod. Examination showed that the pivot bolt and probably the eye bolt itself had been tightened to an extent which prevented the pivotal movement of these components and an abnormal load would therefore have been imposed on the eye bolt lug during ground operation of the aircraft.

8. OPINION AS TO CAUSE

The cause of the accident was that the maintenance procedures were inadequate in that they did not detect that the starboard undercarriage radius rod upper pivot had been incorrectly assembled.

Report approved <i>D. S. Graham</i>	(D.S. GRAHAM)	Designation Assistant Director-General (Air Safety Investigation)	Date 4.2.1971
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DEFINITIONS

ACCIDENT - An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all those persons have disembarked and in which

- (a) any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached to the aircraft; or
- (b) the aircraft suffers substantial damage.

FATAL INJURY - Any injury which results in death within 30 days.

SERIOUS INJURY - Any injury other than a fatal injury which

- (a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
- (b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- (c) involves lacerations which cause severe haemorrhages, nerve, muscle or tendon damage; or
- (d) involves injury to any internal organ; or
- (e) involves second or third degree burns, or any burns affecting more than five percent of the body surface.

MINOR INJURY - Any injury other than as defined under "Fatal Injury" or "Serious Injury".

DESTROYED - Consumed by fire, demolished or damaged beyond repair.

SUBSTANTIAL DAMAGE - Damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft and which would normally require major repair or replacement of the affected component. The following types of damage are specifically excluded: engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, taxi-ing damage to propeller blades, damage to tyres, engine accessories, brakes, or wingtips.

MINOR DAMAGE - Damage other than as defined under "Destroyed" or "Substantial Damage".

Defects discovered

1. The eyebolt lug at the upper end of the starboard undercarriage radius rod had failed due to fatigue cracking.
2. The pivot bolt at the upper end of the starboard undercarriage radius rod had been tightened excessively.
3. The pivot bolt was fitted with a nylon stop nut instead of the slotted nut specified in the aircraft parts catalogue.
4. The eyebolt and the radius rod pivot bolt had not been lubricated in accordance with the lubrication instructions for the aircraft type.