



SI/785/1002

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6 kilometres south-east of Bunbury, Western Australia	Height a.m.s.l. 70 feet	Date 13.1.78	Time (Local) 1105 hours	Zone WST
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Make and Model Cessna 182M		Registration VH-EHU	Certificate of Airworthiness Valid from 30.6.69
Certificate of Registration issued to	Operator	Degree of damage to aircraft Substantial	
		Other property damaged Nil	
Defects discovered Short circuit in one cell of the battery. Open circuit in the voltage regulator. The parking brake balance cable was broken.			

Last or intended departure point	Time of departure	Next point of intended landing	Purpose of flight	Class of operation
Bunbury	-	Bunbury	Pleasure	Charter

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
	Pilot	20	Commercial	5	506	Serious

Name	Status	Degree of injury	Name	Status	Degree of injury
	Passenger	Minor		Passenger	Nil
	Passenger	Minor		Passenger	Nil

The aircraft battery was found to be discharged or substantially so, on 8 January 1978 and during the period leading up to the accident it remained in that condition. [redacted] flew the aircraft twice during that period and for each flight he started the engine by hand swinging the propeller. On each occasion he had the assistance of another pilot manipulating the cockpit controls while he himself swung the propeller. A note, purporting to be prepared by [redacted], instructing that the aircraft be hand started, was attached to the flight records maintained by the Bunbury Aero Club in respect of VH-EHU. An attempt was made on one occasion while the aircraft engine was running, to excite the alternator by using a car battery. This was not effective in improving the aircraft battery state to a level at which it would reliably start the engine.

Arrangements had been made by representatives of the 1st Lynwood Scout Group for a series of pleasure flights in the Bunbury area for their members. The four boys selected for the first of the flights boarded VH-EHU and one of the scout leaders assisted them to secure their seat belts. A seat belt for the centre rear seat could not be found and as a consequence _____, occupying that seat was not strapped in.

1 prepared the aircraft for hand starting and on this occasion he did not have the assistance of another pilot in the cockpit. He set the cockpit controls himself and while so doing pulled the handbrake lever to the "on" position. The left hand door, adjacent to the seat he was to occupy, was open.

The pilot swung the propeller and when the engine started he walked around the left hand wing strut and towards the open cabin door. Before he reached the door, however, the engine speed rose to a point at which the aircraft began to move forward. The cabin door blew shut and attempts by the pilot to open the door while running alongside the aircraft were unsuccessful. He then threw himself across the left hand tailplane and clung there as the aircraft ran forward. There is some evidence that he manipulated the elevator to the down position and also deflected the rudder.

6. RELEVANT EVENTS (CONT'D)

The aircraft left the aerodrome apron and moved towards the runway. Before reaching the runway it veered left and ran along on rough ground at the side of the strip. After passing the eastern threshold of the runway the aircraft traversed a ditch and the nosewheel was broken off. The aircraft then crossed a sealed road and entered another ditch where it came to an abrupt halt, having travelled about 300 metres.

The pilot was flung forward over the left mainplane and he struck the ground heavily just ahead of the aircraft. The unsecured passenger in the centre rear seat was thrown into the front section of the cabin, striking the windscreen but remaining within the aircraft. All four passengers left the aircraft without assistance.

Examination of the aircraft revealed that the handbrake lever was pulled out to the full extent of its travel and locked. The hand brake balance cable had failed because its load bearing capacity had been significantly reduced by fatigue cracking at a point where the cable passed over a small diameter pin. The effect of the failure of the balance cable would have been that the brakes, which were otherwise serviceable, either would not have been applied by operation of the hand brake lever, or, if already applied, would have released when the cable failed. It could not be established when failure of the balance cable had taken place.

A seat belt for the centre rear seat was fitted to the aircraft but was apparently out of sight under the seat when the passengers took their places.

7. OPINION AS TO CAUSE

The cause of the accident was that the pilot did not take appropriate steps to ensure that hand starting of the aircraft engine could be undertaken with safety.

Approved for
publication

G. V. Hughes

(G. V. Hughes)
Delegate of the Secretary

Date

25.3.1980

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

Note. - Specifically excluded are: death from natural causes and fatal or serious injury to any person on board whether self-inflicted or inflicted by another person, or to ground support personnel before or after flight, or fatal or serious injury which is not a direct result of the operation of the aircraft, or which concerns stowaways.

- (b) the aircraft suffers substantial damage or is destroyed; or
- (c) the aircraft is missing or is completely inaccessible.

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 or its accessories, or to propeller blades; bent fairings or cowlings; small dents or puncture holes in the skin; damage to wing tips, antennas, tires, or brakes.

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