

## 1. LOCATION OF OCCURRENCE

8 miles north-east of Launceston Airport, Tasmania.	Height a.m.s.l. (ft) 1100 feet	Date 14.10.69	Time (Local) 1114	Zone EST
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## 2. THE AIRCRAFT

Make and Model Cessna 172D	Registration VH-DIN	Certificate of Airworthiness	Valid from 25.9.64	Valid to 24.9.73
Registered Owner Tasmanian Aero Club, P.O. Box 450, Launceston, TASMANIA	Operator Tasmanian Aero Club, P.O. Box 450, Launceston, TASMANIA	Degree of damage to aircraft Substantial		
Other property damaged				
Defects discovered				

## 3. THE FLIGHT

Last or intended departure point Flinders Island	Time of departure 1013	Next point of intended landing Launceston Airport	Purpose of flight Travel	Class of operation Private
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## 4. THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
George John SMITH	Pilot	47	Commercial	292 hours	4200 hours	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
A.N.R. 225(d)	The pilot did not ensure that the fuel supplies were adequate for the proposed flight and that the required fuel reserves were carried.

## 7. RELEVANT EVENTS

Prior to commencing a charter flight from Launceston to Flinders Island the pilot made a visual check of the fuel tanks and assessed that they were full. He was not aware that since the aircraft had been refuelled it had made a flight of 1 hour 45 minutes duration. On the return flight, approaching Launceston, the pilot was given landing instructions and when the aircraft was established on a visual descent, the engine failed. As he was only 1,000 feet above unsuitable terrain, he turned towards the only suitable field in the area and attempted to restart the engine. Being unable to do so the pilot gave his attention to the forced landing and requested a wind velocity from Launceston Tower. Because of his position and altitude he elected to land downwind in the 15 knot wind, in the field previously selected. The aircraft touched down and rolled for a considerable distance before the pilot began a ground loop to avoid striking a fence across his path. This manoeuvre was only partly successful because of the damp grass and the aircraft struck a fence post and damaged the tail plane and rear fuselage.

## 8. OPINION AS TO CAUSE

The cause of the accident was that the pilot misjudged a forced landing made necessary by fuel exhaustion.

Report approved <i>D.S. Graham</i>	(D.S. GRAHAM)	Designation Assistant Director-General (Air Safety Investigation)	Date 15.4.70
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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".

ACCIDENT TO CESSNA 210/5 AIRCRAFT VH-BBA  
MOUNT BUANGOR, VICTORIA, ON  
17TH JULY, 1969

CONCLUSIONS TO THE INVESTIGATION

On 17th July, 1969, at approximately 2106 hours EST, a Cessna 210/5, registered VH-BBA, struck trees and crashed to the ground on the northern slopes of Mount Buangor, Victoria.

2. The aircraft was owned by R. and J. Stafford of Perth and, at the time of the accident, it was engaged on a private flight to Moorabbin, Victoria, under the flight procedures applicable to night visual meteorological conditions.

3. The pilot, Lance Rollins and the four passengers, Robert John Kent Stafford, Margarette Rollins, Patrick Henry Fleming and Rodney John O'Farrell Liddiard were killed in the accident.

4. The aircraft was virtually destroyed by impact forces and a small fire.

5. The pilot, aged 27 years, held a current private pilot licence which was endorsed for the Cessna 210 type aircraft. He had been issued with a Class 4 Instrument Rating on 10th October, 1967 and this rating had remained in force until 30th September, 1968, but it had not been renewed after that date. The pilot had not entered flying times in his log book since 19th January, 1969, but it has been estimated that his flying experience amounted to 368 hours and that at least 5 hours 25 minutes had been flown on the Cessna 210/5. His recorded instrument flying experience amounted to 68 hours, and he had flown a total of 19 hours at night. His last recorded night flight had taken place on 10th October, 1967, when he underwent a dual night circuit check flight.

6. Robert John Kent Stafford was a part owner of the aircraft and held a current private pilot licence, appropriately endorsed for the Cessna 210/5 type. His total flying experience amounted to 278 hours of which it is estimated that 25 hours had been flown on the Cessna 210/5 aircraft. He had no recorded night flying experience and did not hold an instrument rating. There is some evidence that he flew in command of the aircraft on the sector between Rawlinna and Whyalla, which was conducted during the hours of daylight.

7. The aircraft was operating under a current certificate of airworthiness. At the time of the accident this Certificate is deemed to have been suspended under the terms of Air Navigation Regulation 34(1), because the aircraft log book shows that the starboard fuel tank had been refitted to the aircraft without appropriate certification by an approved person. There is no evidence that this omission contributed in any way to the accident.

8. There is no evidence that the gross weight of the aircraft and the position of the centre of gravity were other than within the specified limits throughout the flight.

9. The weather in the vicinity of the accident site was fine with no low cloud. The 2100 hours weather observation at Ararat, 13 miles west of the accident site, indicated that the sky was clear and the visibility was 25 miles. The surface wind was calm and light winds prevailed at the altitude at which the aircraft reported its position. The time of moon set in the area was approximately 1955 hours.

10. The aircraft departed Jandakot at 0122 hours WST on 17th July, 1969, and it was planned to reach Forrest, the first intended landing point, at 0616 hours WST. Following some difficulty with navigation in the Kalgoorlie area the aircraft landed at Rawlinna, at 0630 hours WST, for the purpose of obtaining fuel. Rawlinna is 143 miles west of Forrest. The departure from Rawlinna was not witnessed but the aircraft called over Forrest at 0858 hours WST and arrived at Whyalla, South Australia, at 1441 hours CST, after a flight of approximately 5 hours 32 minutes.

11. At Whyalla a total of 48 gallons of 100/130 octane fuel was added to the tanks of the aircraft and Lance Rollins, as pilot in command, submitted a flight plan for the sector Whyalla to Moorabbin. This plan indicated that the flight would take 231 minutes and that the aircraft would follow a route over Parafield, Taillem Bend, Horsham, Ballarat and Bacchus Marsh. The aircraft carried ample fuel for the flight and the plan specified that the radio equipment could be operated on frequencies appropriate to the route.

12. The only flight plan indication of intended flight procedures was that contained in the body of the plan where it was indicated that night VMC procedures were to apply over the route section Horsham to Moorabbin. The altitudes planned for this section were 3500 feet from Horsham to Ballarat and 1500 feet from Ballarat to Bacchus Marsh and thence to Moorabbin. Section RAC/OPS 2-6 of the Aeronautical Information Publication requires that an aircraft operating night VMC shall not be flown lower than an altitude providing 1000 feet clearance above any obstacle located 10 miles either side of track and within five miles longitudinally of the aircraft. On this basis a height of not less than 4695 feet would need to be maintained for at least part of the flight between Horsham and Ballarat, not less than 3950 feet for part of the flight between Ballarat and Bacchus Marsh and 2700 feet for part of the flight from Bacchus Marsh to Moorabbin. The flight plan form provides a column for the insertion of lowest safe altitudes but it is not mandatory that this column be completed for night VMC flights. Lowest safe altitudes were not included in the flight plan submitted by this pilot.

13. The aircraft departed Whyalla at 1712 hours CST and encountered last light on the route at approximately 1751 hours CST, some 20 minutes before the aircraft reached Parafield. From the time of last light the aircraft would be subject to the procedures applicable to night VMC flights.

14. The flight plan details were communicated by Whyalla Flight Service Unit to Moorabbin Tower and it was noted that the height planned for the section Bacchus Marsh to Moorabbin was below the minimum safe altitude. Moorabbin Tower notified the aircraft, through the Air Traffic Control system, of this deficiency and of a consequent need to cruise from Bacchus Marsh to Moorabbin at 3000 feet in controlled airspace. The pilot was further advised that he would require the radio frequencies applying in controlled airspace. These instructions were acknowledged by the aircraft to Parafield Tower at 1759 hours CST.

15. The aircraft was further advised by Adelaide Air Traffic Control that an altitude of 1500 feet was insufficient for the sector Parafield to Taillem Bend and was instructed to cruise at 4000 feet, reaching that altitude by Parafield. The aircraft complied with the altitude instructions but was unable to sight Parafield on arrival in the area. Adelaide Radar had monitored the progress of the flight in the local area and, at 1815 hours CST, advised the pilot that his position was four miles to the north east of Parafield. From this position the pilot was given an approximate heading to reach Taillem Bend. At 1820 hours CST the pilot was advised to resume his own navigation as radar contact could no longer be maintained due to the terrain in the area.

16. During the succeeding 129 minutes, there was no contact with the aircraft but, at 2059 hours EST, the aircraft called Melbourne Arrivals Control on 123.9 mcs and advised that his position was over Ballarat at 2058, cruising 4000 feet estimating Bacchus Marsh at 2127 and requesting an airways clearance to Moorabbin at 4000 feet. Melbourne issued an airways clearance for the aircraft to proceed at 4000 feet and requested that the aircraft call Melbourne Approach Control on 124.7 mcs at Bacchus Marsh. The pilot advised that he did not carry 124.7 mcs and he was then instructed to call Melbourne Departures Control on 118.9 mcs. The pilot advised that he did not carry this frequency either and Melbourne Arrivals then advised the pilot that he could not be accepted in controlled airspace and requested that the aircraft proceed to Moorabbin outside controlled airspace. The pilot acknowledged and indicated that he would comply with this request.

17. Melbourne Arrivals Control then requested the aircraft to transfer to Melbourne Flight Service on 120.7 mcs. The aircraft called on this frequency at 2103 hours EST, advising that it was estimating Bacchus Marsh at 27 proceeding OCTA. Melbourne Flight Service passed the area QNH, 1029 millibars, and this transmission was acknowledged with the aircraft call sign. There was no further contact with the aircraft.

18. Following an air search, wreckage was found at 1030 hours on the next morning on the northern slopes of Mount Buangor.

19. The accident site was some 3.5 miles to starboard of the direct track Horsham - Ballarat. Witness reports indicate that a light aircraft was seen to fly over Ararat at about the time that VH-BBA reported its position over Ballarat. Ararat is some 11 miles to the right of the track planned for the flight and the bearing from Ararat to the accident site is 083 degrees magnetic.

20. Approximately one mile to the north east of Mount Buangor is Look Out Hill on which is situated a television tower, the top of which is 3695 feet above sea level. This tower is not lighted except for internal lighting in the attendant building and the surrounding bushland area is completely without lighting. In the light conditions prevailing, external visual reference and the ability to distinguish terrain features would have been very limited and this situation would have been accentuated by a tinted windscreen with which the aircraft was fitted.

21. The aircraft crashed in a heavily timbered area at an elevation of 3150 feet and the wreckage was strewn on a bearing of 073 degrees magnetic over a distance of 383 feet from the first point of impact. Examination of the impact marks indicated that the aircraft was in substantially horizontal flight and apparently under control when the first contact with the trees was made, probably with the port side of the aircraft.
22. The inspection of the wreckage showed that the engine had been delivering substantial power at the time of the accident. The altimeter was recovered and examination indicated that it was probably reading approximately 3150 feet at the time the aircraft contacted the trees. The altimeter subscale was correctly set to the area QNH which had been passed to the aircraft at 2103 hours EST.
23. The probability exists that the pilot incorrectly identified Ararat as Ballarat. Had he, in fact, been at Ballarat the aircraft would then have been approaching an area where the lower level of the controlled airspace is at 4000 feet. There is no restriction to prevent aircraft cruising at this altitude, while still remaining outside controlled airspace, and there was therefore no requirement for the aircraft to descend below that altitude at that time. A most significant consideration, in this regard, is that the lowest safe altitude in this area, under night VMC procedures, is 3950 feet.
24. In conducting the flight at an altitude which did not provide 1000 feet clearance above any obstacle within 10 miles either side of track and within 5 miles longitudinally of the aircraft in flight, the pilot did not comply with the instructions contained in the Aeronautical Information Publication, RAC/OPS 2-6, paragraph 8.4.
25. By acting as pilot in command of the aircraft at night without first complying with the recent experience requirements specified in A.N.O. 60.1.3, the pilot acted in contravention of A.N.R. 62.
26. CAUSE: The cause of the accident was that the pilot, who was inexperienced in night VMC operations, operated the aircraft at an unsafe altitude at night.