

1. LOCATION OF OCCURRENCE

2 miles west of Warracknabeal Aerodrome, Victoria.	Height a.m.s.l. (ft) 365 feet	Date 6.5.69	Time (Local) 1935	Zone EST
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2. THE AIRCRAFT

Make and Model Aero Commander 500S	Registration VH-EXT
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3. CONCLUSIONS

At approximately 1935 hours EST on 6 May, 1969 an Aero Commander 500S aircraft, registered VH-EXT, struck the ground and crashed 2 miles west of Warracknabeal Aerodrome, Victoria, while making an approach to land at that aerodrome.

(ii) The aircraft was owned and operated by Executive Air Services Pty. Ltd. of Melbourne and at the time of the accident it was engaged on a scheduled passenger commuter service between Essendon and Warracknabeal.

(iii) The pilot, Allan James WALKER, and one passenger received minor injuries. A second passenger, the only other occupant, was seriously injured.

(iv) The aircraft was virtually destroyed by impact forces.

(v) The pilot, aged 28 years, held a Current Commercial Pilot Licence, which was endorsed for the Aero Commander type of aircraft. He was the holder of a Class One Instrument Rating and this rating had been renewed after a flight test on 2 April, 1969. His total flying experience amounted to 5427 hours and of this, 966 hours had been flown on Aero Commander aircraft. He had recorded totals of 335 hours of instrument flying and 292 hours of night flying.

(vi) The aircraft was operating under a current certificate of airworthiness and there is no evidence to indicate that the aircraft was other than in an airworthy condition.

(vii) 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.

(viii) The weather at Warracknabeal at the time of the accident was fine. There was no cloud and the wind was from the south east at 10 to 15 knots. The night visibility, that is, the distance at which prominent lighted objects could be seen and recognised, was reported to be 20 miles but it was a very dark night and there was virtually no visible horizon.

(ix) The aircraft departed Essendon at 1836 hours using the procedures applicable to flight under the Instrument Flight Rules. The flight to Warracknabeal at 6,500 feet was uneventful and the pilot commenced descent when the aircraft was approximately 40 miles from that destination. During the descent he observed the lights of the town of Warracknabeal and the lighting at the aerodrome.

(x) After entering the circuit the pilot commenced a downwind leg for a landing towards the east on runway 08. He made a left turn onto base leg and noted the indicated altitude as 1,000 feet and at that altitude the clearance between the aircraft and the local terrain should have been slightly more than 600 feet. On the base leg of the circuit the pilot was unable to see the runway lights and being unsure of his position, he elected to conduct a go around. He did not retract the undercarriage, which had been extended earlier in preparation for landing, and the pilot continued the second circuit at 1,000 feet indicated altitude rather than climbing to establish 1,000 feet terrain clearance which would have been the normal procedure. He flew over the non-directional beacon, which is located approximately 300 yards north of the western end of the runway on which he intended to land and he then positioned the aircraft for the downwind leg of the circuit.

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".

CONCLUSIONS (Cont'd)

(xi) During the downwind leg the pilot noted that the two rows of runway lights appeared closer together and hazy and he interpreted this to mean that he was excessively high. He continued the circuit and after turning onto base leg he could not see the runway lights and he again decided to abandon the approach. At this moment the three undercarriage wheels of the aircraft struck the ground and after running through a fence and striking a number of trees, the aircraft came to rest, in an inverted attitude and severely damaged.

(xii) Warracknabeal aerodrome is situated in flat, featureless and sparsely populated terrain and is located 5 miles south of the town. The aerodrome is equipped with standard electric lighting on the sealed 08/26 runway, an illuminated wind indicator and lighting at the terminal building. The aircraft operator had issued a caution to its pilots advising of the blackness of the surrounding terrain at night and the consequent difficulty of visual height judgement. It was suggested that pilots make their turn on to final approach at not less than 1000 feet indicated altitude. The pilot on this occasion carried a copy of this advice.

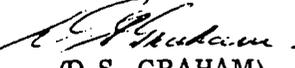
(xiii) The static pressure system of the aircraft was fitted with a selector valve which provided for an alternate source of static pressure to the system. Tests in another aircraft of the same type, similarly equipped, indicated that it was possible for this valve to be selected to a midway position, at which static pressure from both of the two sources was denied to the static system, which became sealed. The effect of such a selection would be to lock the altimeter at that height indication at which the system became sealed and would also cause the airspeed indicator to overread considerably with any subsequent reduction in altitude.

(xiv) When removed from the wreckage, both altimeters gave erroneous readings. Detailed examination of the instruments indicated that each had been capable of normal operation prior to the accident and that the subsequent inaccuracies were the result of impact damage.

(xv) It has not been possible to establish that at any significant time prior to the accident, the static source selector was moved to a position which could affect the altimeter reading. It has not been possible to adduce any malfunction or misreading of the aircraft altimeters as having contributed to the accident. Nevertheless, the possibility that the altimeters were not reading correctly cannot be excluded completely.

4. OPINION AS TO CAUSE

The probable cause of the accident was that the pilot, in approaching an aerodrome at night, did not use appropriate circuit procedures and did not make full use of the available visual and instrument information to ensure adequate terrain clearance.

Release approved  (D.S. GRAHAM)	Designation Assistant Director-General (Air Safety Investigation)	Date 6.10.71
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