



AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

SI/781/1033

Publication of this report is authorized by the Secretary under the provisions of Air Navigation Regulations 283 (1)

1. LOCATION OF OCCURRENCE

Mt. Bellenden Ker, 47 Kilometres south-south-east of Cairns, Queensland.	Height a.m.s.l. 4950 feet	Date 7.7.78	Time (Local) 1321 hours	Zone EST
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THE AIRCRAFT

Make and Model Cessna 310R	Registration VH-SGX	Certificate of Airworthiness Valid from 22.6.78
Certificate of Registration issued to [REDACTED] Aspley, Qld.	Operator [REDACTED] Aspley, Qld.	Degree of damage to aircraft Destroyed
Defects discovered Nil		Other property damaged Nil

3. THE FLIGHT

Last or intended departure point Mackay	Time of departure 1132 hours	Next point of intended landing Cairns	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
[REDACTED]	Pilot	38	Private	29	536	Fatal

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

Name	Status	Degree of injury	Name	Status	Degree of injury
[REDACTED]	Passenger	Fatal	[REDACTED]	Passenger	Fatal
[REDACTED]	Passenger	Fatal			

RELEVANT EVENTS

The pilot attended Brisbane Airport Briefing Office and obtained appropriate area and terminal meteorological forecasts. These indicated that conditions over the proposed route would be generally fine with some cloud over the northern ranges and scattered cumulus, base 2500 feet, for his expected arrival time at Cairns. The pilot, who was the holder of a valid Class 1 Instrument Rating, then submitted a flight plan for a private flight from Brisbane to Mackay and Cairns, to be conducted in accordance with the Instrument Flight Rules (IFR).

The flight from Brisbane to Mackay was completed without reported incident. Mackay the aircraft was refuelled and the pilot obtained the current forecasts, which were unchanged from those provided earlier.

At 1132 hours the aircraft departed Mackay for Cairns cruising at 9000 feet. The pilot's planned route was overhead Townsville. En route, however, Townsville Air Traffic Control (ATC) offered a diversion on radar vectors to pass to the east of Townsville, which the pilot accepted. At 1253 hours, when the aircraft was 83 kilometres north of Townsville by radar, the pilot was cleared to intercept the 331 degree radial of the Townsville VHF Omni Range (VOR), the direct track from Townsville to Cairns as originally planned. The aircraft was observed on radar to make the intercept and continue on the 331 degree radial.

At 1304 hours the pilot reported his position as South Dunk Island, altitude 9000 feet, estimating Cairns at 1330 hours. Townsville ATC cleared the aircraft to enter the Cairns controlled airspace at 9000 feet and to track on the 151 degree radial of the Cairns VOR, that is, to continue on the direct Townsville - Cairns track

At 1313 hours the pilot reported his position to Cairns ATC as approaching 50 miles (92.5 kilometres) from Cairns by reference to the aircraft's Distance Measuring Equipment (DME) and added that the DME had "just dropped out". He also advised "received Charlie", a reference to the then current Cairns Aerodrome Terminal Information, which included the appropriate altimeter setting of 1015 millibars.

6. RELEVANT EVENTS (Cont'd)

The Cairns weather at this time was fine, with scattered cumulus and strato-cumulus cloud, base 3000 feet, and a light surface wind from the south-east. To the south of Cairns a layer of cloud extending from about 3500 feet to 6500 feet obscured the range tops in the Mt. Bartle Frere/Mt. Bellenden Ker area. Cloud to the north and south of this area was scattered cumulus and strato-cumulus. To the east and west conditions were virtually cloudless.

At 1314:47 hours the pilot reported that he was ready to descend and was cleared by Cairns ATC to "descend to 4000 feet, not below DME steps". He was requested to report approaching 4000 feet on descent and to advise his in-flight conditions at that time. The pilot read back "four thousand, not below DME steps" and ATC requested him to confirm that the aircraft's DME had "locked on" again. The pilot replied "affirmative and indicating four niner DME".

At 1326:21 hours Cairns ATC requested the pilot to report DME distance, but there was no reply. Further attempts to establish radio contact with the aircraft were unsuccessful. Search and Rescue action was initiated and at 1625 hours a ground party reported finding the wreckage of the aircraft on the south-eastern side of Mt. Bellenden Ker.

The impact point was 25.6 miles (47.4 kilometres) from the Cairns DME site and 3.25 miles (5.9 kilometres) to the west of the aircraft's assigned track, at an elevation of approximately 4950 feet, some 270 feet below the peak. Impact evidence indicated that the aircraft had struck the rain forest in a slightly right wing down attitude. After initial impact with the trees the aircraft continued on a trajectory approximately 4° downward on a magnetic heading of 333°, breaking off several substantial trees before striking the ground in a virtually level attitude.

Compliance with the clearance issued to VH-SGX at 1314:47 hours required that the aircraft maintain an inbound track of 331° magnetic to Cairns. Upon reaching a position 47 miles (87 kilometres), from Cairns as indicated by the DME, the aircraft could then descend to a minimum altitude of 7000 feet. At 33 miles (61 kilometres), descent could continue to 6600 feet and at 22 miles (40.7 kilometres) from Cairns, descent to 5200 feet was permissible. Descent below that altitude should not have commenced until the aircraft had reached 15 miles (27.8 kilometres) from Cairns and at that point descent to an altitude of 4500 feet was appropriate. At 11 miles (20.4 kilometres) by DME the pilot would have been clear to descend to his assigned altitude of 4000 feet. A current copy of the published DME Arrivals Procedures applicable to Cairns was recovered from the wreckage of the aircraft.

Examination of the wreckage did not reveal any evidence of unserviceability or malfunction of the aircraft which might have contributed to the accident.

When the left hand altimeter was examined the sub-scale was found to be loose and free to rotate due to damage which the instrument had incurred in the accident. The setting of the sub-scale could thus not be determined. One pointer of this altimeter bore witness marks which suggested that at some time during the disintegration of the aircraft, the altimeter was indicating approximately 5200 feet. The right hand altimeter was more severely damaged and its examination was unproductive of positive information. There was evidence that the radio navigation equipment in the aircraft was in operation at the time of impact and that the relevant equipment was selected to the Cairns DME channel and the Cairns VOR frequency respectively. It was not possible to establish what DME distance and VOR radial information were being displayed at impact.

The Cairns radio navigation facilities operated normally throughout the relevant period. Checks of that equipment following the accident did not reveal any abnormality nor any evidence that the equipment was operating other than satisfactorily.

7. OPINION AS TO CAUSE

The cause of the accident was that, for reasons not determined, the aircraft was not operated in accordance with a descent clearance issued by Air Traffic Control.

Approved for
publication

[Signature]

Delegate of the Secretary

Date

23.7.80