Aviation safety investigations & reports

Aero Commander 500-S, VH-UJB near Cairns, Qld on 10 April 2001

Investigation number:
200101537
Status: Completed

A Shrike Commander 500S aircraft departed Cairns airport at 0707 Eastern Standard Time (EST) on a charter flight to Hicks Island. The aircraft was being operated under the Instrument Flight Rules (IFR) and the expected flight time was 2 hours. Shortly after takeoff the pilot requested an amended altitude of 4,000 ft. He indicated that he was able to continue flight with visual reference to the ground or water. Air Traffic Services (ATS) issued the amended altitude as requested.

The IFR Lowest Safe Altitude for the initial route sector to be flown was 6,000 ft Above Mean Sea Level (AMSL).

Data recorded by ATS indicated that approximately 13 minutes after departure, the aircraft disappeared from radar at a position 46NM north of Cairns. At the last known radar position the aircraft was cruising at a ground speed of 180 kts and at an altitude of 4,000 ft AMSL. An extensive search located the wreckage the following afternoon at a location consistent with the last known radar position, on the north-western side of Thornton Peak at an altitude of approximately 4,000 ft (1219 metres) AMSL. The aircraft was destroyed by impact forces and post-impact fire. The pilot and three passengers received fatal injuries.

Thornton Peak is the third highest mountain in Queensland and is marked on topographic maps as 4,507 ft (1,374 metres) in elevation. Local residents reported that the mountain was covered by cloud and swept by strong winds for most of the year.

The aircraft had been observed by witnesses approximately two minutes prior to impact cruising at high speed, on a constant north-westerly heading, in a wings level attitude and with flaps and landing gear retracted. They stated that the engines appeared to sound normal.

Wreckage and impact information

ATSB investigators were unable to attend the accident site due to the prevailing weather conditions. However, they were able to view video footage of the wreckage which had been recorded by the search and rescue helicopter crew at the time the wreckage was located. The footage displayed evidence of the presence of both wings and the tail section of the aircraft and indicated a straight and level flight attitude at the time of impact. Damage to the aircraft structure, engines and propellers appeared extensive. There appeared to have been a limited post-impact fire. The aircraft Emergency Locator Transmitter (ELT) did not activate.

Pilot information

The pilot in command held a Commercial Pilot (Aeroplane) Licence and a Command Multi-Engine Instrument Rating. He had been employed by the company for approximately seven years and held the position of North Queensland Base Manager. At the time of the accident the pilot had accumulated a total 9,680 flying hours including 7,144 on multi-engine aircraft and 2,402 hours on Shrike Commander aircraft. He had flown 117 hours in the previous 90 days. He was reported to have been fit and well rested prior to the flight.

Aircraft information

The aircraft had undergone scheduled maintenance on 22 March 2001. A major inspection and overhaul had been completed on 29 September 2000, with the airframe completely stripped and painted and all components removed and reinstalled. The aircraft was considered capable of normal flight prior to the accident.

Meteorological information

The Bureau of Meteorology Area Forecast at the time of the accident indicated isolated showers tending to scattered in the east over the sea, coast and adjacent ranges south of Princess Charlotte Bay, with isolated fog patches from 0400 until 0800 EST. Winds were south-easterly at 20 kts. Significant cloud consisting of Cumulonimbus, Stratus and Cumulus, was forecast from 2,500 to 40,000 ft. Forecast weather conditions included showers, thunderstorms and fog, with visibility of 2,000 m in thunderstorms, 3,000 m in showers and 900 m in fog. Turbulence was predicted to be occasionally moderate below 5,000 ft over the coast and ranges south of Cooktown.

The Terminal Area Forecast (TAF) for Cairns indicated wind from 130 degrees magnetic at 13 kts, visibility greater than 10 km, showers and rain, scattered cloud at 2,500 ft, scattered cloud at 4,000 ft and conditions deteriorating intermittently for periods up to 30 mins to visibility 4,000 m in showers and rain, scattered cloud at 1,000 ft and broken cloud at 1,800 ft.

The TAF for Cooktown (48 NM north of the accident site) indicated wind from 120 degrees magnetic at 14 kts, visibility greater than 10 km, showers and rain, scattered cloud at 2,000 ft, scattered cloud at 4,000 ft and conditions deteriorating intermittently for periods up to 30 mins to visibility 4,000 m in showers and rain, scattered cloud at 1,000 ft and broken cloud at 2,000 ft.

Actual meteorological observations for Cairns and Cooktown at the time of the accident indicated winds of 170 degrees at 8 kts and 120 degrees at 6 kts respectively. Cloud observed at Cairns was 2 octas Cumulus at 2,500 ft and 3 octas Stratocumulus at 4,000 ft. Under the influence of the prevailing moist south-easterly airstream, the ranges adjacent to the coast would have been covered by low cloud.

The Australia Advanced Air Traffic System (TAAATS) has a Minimum Safe Altitude Warning System (MSAW) as part of its normal operation. MSAW operates within defined areas normally associated with operations in the terminal area within controlled airspace. The system uses off-line defined topographical data to warn controllers when aircraft are likely to operate close to terrain within controlled airspace. The impact area was outside controlled airspace and not in an MSAW defined area.

In addition, in accordance with the Manual of Air Traffic Services, when pilots in command accept terrain clearance visually, air traffic controllers do not respond to MSAW alerts.

Radar data recorded by Air Traffic Services and witness reports indicated that the aircraft was flying straight and level and maintaining a constant airspeed. Therefore, it is unlikely that the aircraft was experiencing any instrumentation or engine problems.

Why the pilot continued flight into marginal weather conditions at an altitude that was insufficient to ensure terrain clearance, could not be established.

The aircraft was flown at an altitude that was insufficient to ensure terrain clearance.

General details

Date:	10 April 2001	**Investigation status:**	Completed
Time:	0725 hours EST		
Location (show map):	85 km N Cairns, Aero.		
State:	Queensland	**Occurrence type:**	CFIT
Release date:	06 February 2002	**Occurrence category:**	Accident
Report status:	Final	**Highest injury level:**	Fatal

Aircraft details

Aircraft manufacturer	Aero Commander
Aircraft model	500
Aircraft registration	VH-UJB
Serial number	3152
Type of operation	Charter
Damage to aircraft	Destroyed
Departure point	Cairns, QLD
Departure time	0707 hours EST
Destination	Hicks Island, QLD

Crew details

Role	Class of licence	Hours on type	Hours total
Pilot-in-Command	Commercial	2402	9680

Injuries

	Crew	Passenger	Ground	Total
Fatal:	1	3	0	4
Total:	1	3	0	4

Last update 05 May 2016