Aviation Safety Investigation Report 199401319

Aero Commander Div Turbo Commander

18 May 1994

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Aviation Safety Investigation Report

199401319

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number: 199401319 **Occurrence Type:** Incident
Location: 96km NNW Launceston
State: TAS **Inv Category:** 4
Date: Wednesday 18 May 1994
Time: 0225 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Aero Commander Div
Aircraft Model: 690-A
Aircraft Registration: VH-AAG **Serial Number:** 11101
Type of Operation: Charter Cargo
Damage to Aircraft: Nil
Departure Point: Melbourne VIC
Departure Time:
Destination: Launceston TAS

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	ATPL 1st Class	60.0	2200

Approved for Release: Monday, June 20, 1994

The pilot reported that enroute at FL210 the aircraft had been cruising on top of stratus cloud in clear sky. About five miles prior to top of descent, thin altostratus was encountered. This prompted the pilot to select the airframe anti-icing systems on. The windscreen heat, pitot heat and fuel vent anti-icing had been selected on prior to take-off.

The aircraft then encountered heavy rain and light to moderate turbulence. The autopilot was disengaged and descent was commenced. Shortly afterwards, the pilot noticed the airspeed indication had decreased to 120 knots and the vertical speed indicator was showing a 500 feet per minute rate of climb. The pilot then lowered the nose of the aircraft but the airspeed continued to decrease. The side windows of the aircraft cockpit were completely iced over.

The airspeed decreased to below the stall speed and the turbulence increased. The pilot selected full power and transmitted a mayday call, believing the aircraft may stall. Shortly afterwards, the pilot felt the aircraft shake and a severe jolt occurred. He then had a sensation of the aircraft pitching violently nosedown. After this the airspeed increased rapidly towards VNE and rate of descent was indicating 5000 to 6000 feet per minute. The aircraft was then recovered to the normal descent profile and subsequently landed at the destination without further incident.

A check of recorded radar data showed that the aircraft did in fact experience a high rate of descent over a period of some 38 seconds while on descent between FL165 and FL140. Average descent rate over this period was approximately 4000 feet per minute with a peak rate in excess of 6000 feet per minute. Airspeed was also increased during this period.

The forecast freezing level was 5000 feet and icing conditions were forecast to be moderate in cumulus, altocumulus and altostratus type cloud.

Significant Factors

The following factors were considered relevant to the development of the incident:

1. The aircraft entered an area of severe icing with which the aircraft anti-icing systems were unable to cope.

2. As a result the aircraft pressure instrument sensing systems were adversely affected by ice accumulation resulting in abnormal airspeed and vertical speed indications.

3. This resulted in the aircraft entering a high rate of descent and high airspeed situation.