Aviation Safety Investigation Report 199000032

Cessna 172L

23 December 1990

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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.

Occurrence Number: 199000032 **Occurrence Type:** Accident
Location: Mittagong NSW
Date: 23 December 1990 **Time:** 1050
Highest Injury Level: Serious
Injuries:

	Fatal	Serious	Minor	None
Crew	0	1	0	0
Ground	0	0	0	-
Passenger	0	3	0	0
Total	**0**	**4**	**0**	**0**

Aircraft Details: Cessna 172L
Registration: VH-SUK
Serial Number: 17259926
Operation Type: Private
Damage Level: Substantial
Departure Point: Mittagong NSW
Departure Time: 1045
Destination: Mittagong NSW

Approved for Release: 10th July 1991

Circumstances:

The aircraft was loaded close to its maximum all-up weight and departed from runway 24. The takeoff was normal and the aircraft was airborne within 500 metres. After takeoff, a right turn was commenced which is normal procedure to avoid the rising terrain. The aircraft was apparently performing normally and climbing at about 65 to 70 knots. However, approaching a row of pine trees, it began to lose height. Despite the pilot maintaining the aircraft in the climb attitude, and using full engine power, the aircraft continued to lose height until ground impact. Although fire rapidly developed after impact the pilot successfully assisted the passengers to evacuate. No pre-accident defects were found with the aircraft which could have contributed to the accident. At the time of the accident, a low pressure of 995 hPa was situated over the area. This combined with the surface temperature of about 28 to 30 degrees Celsius to produce a density altitude of 4650 feet at the airfield which is 1850 feet above sea level. The weather pattern was also producing gusty winds and mechanical turbulence over the surrounding hills. A combination of high density altitude and high aircraft all-up weight resulted in a best achievable rate of climb of about 400 feet per minute. This was reduced by the effects of downdrafts, turbulence and the turn, with the result that the aircraft could not outclimb the terrain.

Significant Factors:

The following factors were considered relevant to the development of the accident

1. High density altitude.

2. High aircraft all-up weight.

3. Turbulence and downdrafts over the surrounding hills.

4. Pilot's low aeronautical experience level.