

**Aviation Safety Investigation Report
199602836**

**Cessna Aircraft Company
172K**

07 September 1996

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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: 199602836 **Occurrence Type:** Accident
Location: Toogoolawah, (ALA)
State: QLD **Inv Category:** 4
Date: Saturday 07 September 1996
Time: 1415 hours **Time Zone** EST
Highest Injury Level: Serious
Injuries:

	Fatal	Serious	Minor	None	Total
Crew	0	1	0	0	1
Ground	0	0	0	0	0
Passenger	0	2	2	0	4
Total	0	3	2	0	5

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 172K
Aircraft Registration: VH-EIZ **Serial Number:** 17258494
Type of Operation: Miscellaneous Parachute Jump
Damage to Aircraft: Destroyed
Departure Point: Toogoolawah QLD
Departure Time: 1415 EST
Destination: Unknown

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial		450

Approved for Release: Thursday, February 6, 1997

Factual Information

The flight was conducted from a grass strip about 1,000 m long oriented 060/240 degrees M and operated by a parachuting club. The wind was from the south-west at 10-20 kts.

Witnesses reported that, as the pilot commenced to taxi the aircraft from its hangar to the loading position, the propeller struck the ground. It was not clear whether the impact was sufficient to stop the rotation of the propeller. The aircraft was pulled clear of the area and the propeller examined by the pilot and the jump-master. The jump-master indicated that the blades appeared to have retained their shape and were intact. However, at his suggestion, the pilot flew a circuit to check the aircraft's performance. The pilot indicated that the aircraft performed normally. Neither the pilot in command nor the jump-master were qualified to inspect the propeller in accordance with Civil Aviation Order Part 106 which details the inspections to be conducted following a propeller strike.



Four parachutists then boarded the aircraft. They reported that the ground roll required for the aircraft to take off seemed to be longer, and the aircraft climbed at a shallower angle, than they had previously experienced, however, the engine sounded normal. At what they thought was about 200 ft above ground level, they heard the pilot say that the engine had lost power. He then commenced to turn the aircraft to the left. When the aircraft was aligned with the strip, one of the parachutists called for the pilot to lower the flaps.

Ground witnesses saw the aircraft turn left and approach the strip downwind. The aircraft touched down about half way along the strip but immediately became airborne again and commenced a shallow climb with a nose-high attitude. The flaps were observed to be in the fully extended position and the aircraft was rolling left and then right. About 300 m beyond the end of the strip, the aircraft struck powerlines 8 m above ground level, then collided with the ground at a steep nose-down angle and was destroyed by impact forces.

The aircraft was fuelled to capacity a few weeks before the accident. There was no evidence to suggest that it had been flown or defuelled in the intervening period. The weight of the aircraft at takeoff was calculated to be approximately 1,198 kg. This compares with its maximum take-off weight of 1,043 kg.

Examination of the propeller revealed damage to both blades. While some damage appeared to be consistent with the propeller strike during taxi, other damage may have been caused by impact with the ground following the wire strike. Examination of the flaps confirmed that they were fully extended at impact. There was no evidence of any other condition which might have affected the operation of the aircraft.

The aircraft was fitted with only the pilot's seat as it is common practice in parachute operations to remove all other seating. While the pilot's seat was fitted with a lap-sash safety harness, there was no evidence of the presence of safety harnesses or restraints available to the parachutists for the accident flight. Some of the parachutists on board the aircraft advised that it is common practice for parachutists not to wear safety harnesses because of their potential to hinder egress from the aircraft.

The pilot was unable to be interviewed during the course of the investigation. As far as could be determined, his flying experience in the few months before the accident was limited to the conduct of parachute dropping flights from the airstrip on some weekends. His experience on the aircraft type could not be established.

Analysis

There was insufficient evidence to draw any conclusion concerning what affect, if any, the propeller ground strike had on the performance of the aircraft. However, the take-off and climb performance of the aircraft with the parachutists on board would have been significantly less than that which the pilot had experienced during the check flight which had been conducted a short time earlier. The difference in performance may have been sufficient to lead him to believe that the engine had lost power.

The attempt to land downwind in the prevailing conditions contributed to a higher than normal approach profile and approach speed. Similarly, the subsequent attempt to go around with the flaps fully extended resulted in a shallow climb gradient. The observed rolling motions of the aircraft were consistent with it operating close to the stalling speed. The nose-high attitude of the aircraft may have prevented the pilot in command from seeing the power lines.

