# Aviation Safety Investigation Report 198701450

## CESSNA A188-A1

## 11 November 1987

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Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the CEO of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the CEO of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

**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:** 198701450 **Occurrence Type:** Accident
**Location:** 1 km W Elmore VIC
**Date:** 11 November 1987 **Time:** 1100
**Highest Injury Level:** Nil
**Injuries:**

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

**Aircraft Details:** CESSNA A188-A1
**Registration:** VH-KQB
**Serial Number:** 188-0244
**Operation Type:** Aerial Work (Agricultural Spraying)
**Damage Level:** Substantial
**Departure Point:** Elmore VIC
**Departure Time:** N/A
**Destination:** Elmore VIC

**Approved for Release:** March 30th 1988

**Circumstances:**

The pilot held the aircraft on the brakes and did his run up checks then commenced take off to the west with a ten knot crosswind from the left. As the tail lifted the aircraft commenced a swing to the left which the pilot was unable to control with full right brake and rudder. He closed the throttle, the aircraft swung sharply left and the right main leg and tail wheel leg collapsed. Inspection of the aircraft showed that the right brake torque plate was attached by welds, one of which failed due to poor quality and low penetration of the weld. This allowed a degree a movement of the torque plate but did not appear to impair the brake operation. One of the three left main wheel through bolts had failed, following 90 per cent progressive fracture in a manner typical of low stress high cycle fatigue cracking. This allowed the wheel halves to be forced slightly apart at this section, causing distortion of the brake disc and drag contact with the brake pads at each wheel rotation. With operation on the ground the effect would have been increased due to the weight of the aircraft and rolling contact with minor strip surface undulations. It was also established that the left brake could be applied normally but that sometimes when the brake was released the brake remained partly applied. The circumstances of the investigation were such that the reason for this was unable to be determined. The uncontrolled swing on take off most likely resulted from the combined effects of the cross wind, the failed wheel through bolt and unidentified defect which caused the left brake not to release fully after it had been applied.