# Aviation Safety Investigation Report 199603690

## Beech Aircraft Corp Super King Air

## 10 November 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.**

# Aviation Safety Investigation Report

# 199603690

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:** 199603690 **Occurrence Type:** Incident
**Location:** 28km E Wagga Wagga, VOR
**State:** NSW **Inv Category:** 4
**Date:** Sunday 10 November 1996
**Time:** 1700 hours **Time Zone** ESuT
**Highest Injury Level:** None

**Aircraft Manufacturer:** Beech Aircraft Corp
**Aircraft Model:** 200
**Aircraft Registration:** VH-YNE **Serial Number:** BB-605
**Type of Operation:** Charter Passenger
**Damage to Aircraft:** Nil
**Departure Point:** Adelaide SA
**Departure Time:** 1520 ESuT
**Destination:** Canberra ACT

**Crew Details:**

| Role | Class of Licence | Hours on Type | Hours Total |
|---|---|---|---|
| Pilot-In-Command | ATPL | 400.0 | 7750 |

**Approved for Release:** Monday, June 30, 1997

The pilot reported that the Beech 200 King Air was passing through FL230, on descent from FL270, when he heard a loud bang. He advised ATC that both he and the sole passenger had donned oxygen masks as a result of a sudden loss of cabin pressurisation.

A post flight inspection of the aircraft found that the rear entrance upper latch hook had failed, permitting a loss of cabin pressurisation. The hook is an item with a replacement life of 12,000 flight hours. The failed door latch hook was reported to have completed 4704.5 hours, and 4295 pressurisation cycles, since new.

Failure analysis of the door latch hook found that the failure was caused by the growth of fatigue cracking, initiating from the inner radius of the hook. Subsequent crack extension was by a stress corrosion mechanism.

Several factors were considered to have contributed to the failure of the hook well before the expiry of its designated safe life, including:

- a surface irregularity created during machining of the hook;

- fatigue crack initiation from that machining irregularity;

- lack of corrosion protection of the door latch hook; and

- stress corrosion from prolonged exposure to a corrosive environment.

SAFETY ACTION

The Bureau of Air Safety Investigation issued Safety Advisory Notice 970071 which drew the attention of the Civil Aviation Safety Authority to the fatigue failure of the hook.