

**Aviation Safety Investigation Report
199401233**

**Beech Aircraft Corp
Super King Air**

11 May 1994

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director 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 Executive Director 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.

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: 199401233 **Occurrence Type:** Accident
Location: Dubbo
State: NSW **Inv Category:** 4
Date: Wednesday 11 May 1994
Time: 1530 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Beech Aircraft Corp
Aircraft Model: B200C
Aircraft Registration: VH-AMM **Serial Number:** BL-125
Type of Operation: Non-commercial Aerial Ambulance
Damage to Aircraft: Substantial
Departure Point: Brewarrina NSW
Departure Time:
Destination: Dubbo NSW

Crew Details:

<u>Role</u>	<u>Class of Licence</u>	<u>Hours on Type</u>	<u>Hours Total</u>
Pilot-In-Command		3500.0	10000

Approved for Release: Monday, August 5, 1996

After arriving in the circuit area the pilot extended the landing gear and obtained the correct down and locked indications. The right main gear leg subsequently collapsed during the landing roll.

The retract actuator trunnion bearings had collapsed, allowing excessive movement of the actuator in its mount. This resulted in insufficient travel of the actuator to fully engage the downlock. Two separate occurrences involving unsafe landing gear indications, which had been corrected in flight by recycling, had been reported to the operator's maintenance staff prior to the accident. The maintenance staff, unable to duplicate the defect on the ground, had adjusted the downlock switch. Those adjustments finally resulted in the switch jamming in the closed position, giving a safe indication.

The downlock switch has two functions, providing independent safe/unsafe indications of the lock and, in series with the nose and left leg switches, removal of electrical power to the hydraulic pump when the three downlocks are sensed in a locked condition. On the accident flight, with the right downlock switch jammed in the closed position, hydraulic pressure was terminated when the left and nose gears locked down. As the lock function of the right gear lock was compromised because of the failed trunnion bearings, the leg collapsed under the landing loads.

Investigation of the aircraft maintenance requirements determined that the landing gear actuator trunnion bearings had been incorrectly identified as sealed bearings requiring no lubrication. The bearings fitted to the aircraft were of the unsealed type, with a requirement for lubrication every 1000 landings or 30 months.

Safety Action

As a result of the investigation into this occurrence, two other B200C aircraft from the same operator were found to have similar unsealed bearings fitted to the main landing gear actuator trunnion bearings. The operator has taken action to amend the aircraft inspection schedule to include lubrication of unsealed bearings and initiated a retirement life program for all sealed bearings.

The Bureau of Air Safety Investigation issues the following Safety Advisory Notice.

SAN 960030

The Bureau of Air Safety Investigation suggests that the Civil Aviation Safety Authority consider publishing an appropriate educational article detailing the circumstances of this occurrence and highlighting the need to correctly identify the various types of bearings, and their lubrication requirements, in all aircraft components.

