Aviation Safety Investigation Report 199702707

Beech Aircraft Corp Bonanza

21 August 1997

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Aviation Safety Investigation Report

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Occurrence Number: 199702707 **Occurrence Type:** Accident
Location: Charleville, Aerodrome
State: QLD **Inv Category:** 4
Date: Thursday 21 August 1997
Time: 1745 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Beech Aircraft Corp
Aircraft Model: A36
Aircraft Registration: VH-WMA **Serial Number:** E-385
Type of Operation: Charter Passenger
Damage to Aircraft: Substantial
Departure Point: Charleville QLD
Departure Time: 1430 EST
Destination: Toowoomba QLD

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial	100.0	3300

Approved for Release: Tuesday, February 3, 1998

The pilot reported that selection of the landing gear up was followed by a loud noise, which appeared to be associated with the landing gear system. The landing gear in-transit light remained illuminated. The pilot remained in the circuit area and selected the landing gear down. This produced green lights for both main gears but no light for the nose gear. The in-transit light remained illuminated. The pilot then attempted to extend the landing gear manually. However, the manual extension lever was jammed and could not be moved.

Observers on the ground advised the pilot that the nose gear was swinging backwards and forwards as the aircraft flew overhead. The pilot then attempted to force the nose gear into position by manoeuvring the aircraft. However, the landing gear indication remained unchanged. The pilot subsequently selected the landing gear up and landed the aircraft with the main gear retracted and the nose gear hanging.

Examination of the landing gear revealed that the gearbox end of the rear retract rod end for the nose landing had failed. The failure was caused by fatigue crack growth. There was clear evidence of galling between the spherical ball and the outer race. (Galling is adhesive wear between two contacting surfaces and involves localised welding and transfer of materials from one surface to the other.) Under such conditions, then the ball would have been prevented from moving freely during landing gear operation, subjecting the fitting to abnormal operating loads. Advice from the manufacturer indicated that the rod could have been in the aircraft since its manufacture in 1972.

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