



Australian Government

Australian Transport Safety Bureau

Wheels up landing involving a Beech BE58, VH-AKG

Darwin Airport, Northern Territory, 28 April 2014

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Addendum

Page	Change	Date

Wheels up landing involving a Beech BE58, VH-AKG

What happened

On 28 April 2014, at about 0800 Central Standard Time (CST), a Beech BE58 aircraft, registered VH-AKG (AKG), departed Gove, for a charter flight to Ramingining, Northern Territory, with a pilot and two passengers on board.

At about 0845, when in the circuit at Ramingining, the pilot selected the landing gear down and the first stage of flap. Two green lights illuminated for the landing gear, however the right main landing gear light did not. The pilot then relocated the aircraft to hold to the north of the aerodrome, and attempted to determine the cause of the abnormal indication. He changed the light bulb and the right landing gear light still did not illuminate, and a test of the indicator function showed it to be working correctly. He then operated the landing gear lever to retract and extend the landing gear twice, and the same indications appeared.

Another aircraft then landed at Ramingining and the pilot of AKG asked the pilot of that aircraft to determine during a fly-by whether the landing gear was extended normally. The pilot on the ground advised that the right main landing gear remained retracted in the gear well. The pilot of AKG then used the emergency gear handle in an attempt to extend the landing gear, however it was in the fully extended position and the right main landing gear light remained off.

The pilot advised the passengers that the status of the landing gear was uncertain and he initially elected to return to Gove. The flaps remained extended at the first stage (10°) and the circuit breaker popped when the pilot attempted to retract them. He then contacted the chief pilot via telephone and advised him of the situation and his intention to return to Gove. The chief pilot asked the pilot to confirm there was sufficient fuel on board and requested the aircraft divert to Darwin, where emergency services and engineering personnel were available.

The pilot retracted the landing gear and then retracted the flaps by repeatedly resetting the circuit breaker. During the 90 minute flight to Darwin, the pilot rehearsed the emergency procedures for a wheels-up landing. The chief pilot contacted Darwin air traffic control (ATC) and advised of the situation. When about 70 NM from Darwin Airport, the pilot contacted Darwin ATC. On approach, he requested holding at Hope Inlet and selected the landing gear down, with the same result. He briefed the passengers regarding the landing gear status and advised that they would conduct a fly-by of the tower to allow an inspection of the landing gear. He conducted a fly-by inspection at Darwin tower, and the controller, engineer and chief pilot all verified that that right main landing gear had not extended and was still up in the wheel well. The pilot then retracted the landing gear, which was confirmed by the personnel in the tower, and did not attempt to extend it again.

The tower controller cleared AKG to land on runway 36, however the pilot requested holding at Lee Point to brief the passengers for a wheels-up landing and subsequent exit from the aircraft. He then fully extended the flaps, which took some time, with repeated resetting of the circuit breaker. At about 1145, the pilot was cleared to land on runway 36. He reported that the workload on the final approach was high, as the aircraft was more responsive without the landing gear extended. He kept some power on during the approach in case a go-around was required. When over the runway threshold, the pilot selected the mixture levers to idle cut-off. The rear step scraped on the runway, the flaps then contacted it, followed by the aircraft fuselage, and the left propeller, which caused the aircraft to yaw to the left. The pilot used right rudder to keep the aircraft straight and then the right propeller contacted the runway and the pilot again corrected the yaw. The aircraft came to rest about half way along the runway and the pilot switched all the electrics and fuel off. The pilot exited the aircraft and assisted the passengers to disembark. No injuries were sustained and the aircraft was substantially damaged (Figure 1).

Figure 1: Damage to VH-AKG



Source: Operator

Engineering inspection

An engineering inspection found that the up-lock assembly on the right main landing gear was binding and prevented extension of the right main landing gear. The up-lock mechanism pivots on a bolt, which was not listed in the lubrication chart for the aircraft. The binding of the assembly damaged the retract-extend rod and prevented any further movement of the retraction mechanism on the right main landing gear.

The damaged retract-extend rod placed load on the flap actuating cable, causing the flap circuit breaker to trip. This prevented the flaps from extending and retracting normally.

Safety message

This incident provides a positive example of how well a pilot copes with a distraction or equipment failure. Having planned to carry more than adequate fuel for the flight, the pilot was able to divert to an alternate aerodrome with better facilities. The pilot briefed the passengers thoroughly and ensured they were aware of the situation and what to expect. The pilot was then able to concentrate on configuring the aircraft without undue distraction. Prior to landing, the pilot took extra time to hold and ensure the aircraft was appropriately configured, for the best possible outcome for landing with the wheels up.

Research conducted by the ATSB found that distractions were a normal part of everyday flying and that pilots generally responded to distractions quickly and efficiently. The report is available at www.atsb.gov.au/publications/2005/distraction_report.aspx.

General details

Occurrence details

Date and time:	28 April 2014 – 1145 CST	
Occurrence category:	Accident	
Primary occurrence type:	Landing gear / Indication	
Location:	Darwin Airport, Northern Territory	
	Latitude: 12° 24.88' S	Longitude: 130° 52.60' E

Aircraft details

Manufacturer and model:	Beech Aircraft Corporation 58/A1	
Registration:	VH-AKG	
Serial number:	TH-1011	
Type of operation:	Charter	
Persons on board:	Crew – 1	Passengers – 2
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Substantial	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.