



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8522	
Aircraft Registration	ZS-PFN	Date of Accident	26 July 2008		Time of Accident	0700Z
Type of Aircraft	Beech craft Bonanza		Type of Operation		Private	
Pilot-in-command Licence Type		Private	Age	43	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	267,22		Hours on Type	83,22
Last point of departure		Wonderboom Aerodrome (FAWB)				
Next point of intended landing		Thabazimbi Aerodrome				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
Limpopo Province; Thabazimbi aerodrome on Runway 25						
Meteorological Information		Surface wind: 90°/5 knots; Visibility: poor; Temperature: 10 °C and no clouds				
Number of people on board	1 + 1	No. of people injured	1	No. of people killed	0	
Synopsis						
<p>The pilot and the passenger were engaged on a private flight from Wonderboom Aerodrome to Thabazimbi Aerodrome. The pilot reported that he had departed from Wonderboom Aerodrome at approximately 0630Z under special VFR conditions.</p> <p>During touchdown, the pilot reported a loud scratching noise and the voice warning system came on, stating "check undercarriage". The pilot immediately realised that the undercarriage was not down. The aircraft skidded for approximately 130 metres in a straight line before coming to a standstill.</p> <p>The investigation, which included an on-site investigation and retraction tests at the AMO facility, revealed no anomalies on the undercarriage system.</p>						
Probable Cause						
<p>The pilot failed to select the undercarriage down during landing which resulted in the aircraft landing with its wheels up.</p>						
IARC Date				Release Date		



AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : P.WC Main
Manufacturer : Beech Aircraft Corporation
Model : BE35
Nationality : South African
Registration Marks : ZS-PFN
Place : Runway 25 at Thabazimbi Aerodrome
Date : 26 July 2008
Time : 0700Z

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Purpose of the Investigation:

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (1997) this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and **not to establish legal liability**.*

Disclaimer:

This report is given without prejudice to the rights of the CAA, which are reserved.

1. FACTUAL INFORMATION

1.1 History of Flight

- 1.1.1 The pilot and the passenger were engaged on a private flight from Wonderboom Aerodrome to Thabazimbi Aerodrome when the accident occurred. The pilot reported that he departed from Wonderboom Aerodrome at approximately 0630Z under special VFR conditions. The departure was normal and the pilot reported that they first climbed to 5000 feet above mean sea level due to poor visibility. As soon as the conditions improved, he climbed to 7000 feet above mean sea level to clear the mountains at Thabazimbi.
- 1.1.2 The pilot reported that the cruise was normal with no anomalies. On arrival at Thabazimbi, the pilot reported overhead the field and decided to approach the field on a long final for Runway 25. The undercarriage was lowered and flaps set at 50%. The pilot confirmed that the undercarriage was down and locked with a green light showing, and that he had checked the green light indicator. On short finals the pilot increased the flaps to full and performed his final landing checks, which included the following: Undercarriage down and locked (at this stage the pilot reported that he performed a final check for both the undercarriage green indicator and the nose gear indicator). According to the pilot, the passenger indicated that the undercarriage light was green and they had full flaps by giving him a thumbs up,.

- 1.1.3 As soon as the aircraft touched down, the pilot reported a loud scratching noise and the voice warning system came on, saying “check undercarriage”. The pilot immediately realised that the undercarriage was not down. The aircraft skidded for approximately 130 metres in a straight line before coming to a stop.
- 1.1.4 The pilot reported that he immediately switched off all electrical instruments and the master switch. The main wheel bay flaps were halfway open and the undercarriage circuit breaker popped out. The pilot reported that he did not have any idea how he did a wheels-up landing.

1.2 Injuries to Persons

Injuries	Pilot	Crew	Pass.	Other
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	-	-	-	-
None	-	-	-	-

1.3 Damage to Aircraft

- 1.3.1 The aircraft sustained damage to the step, propeller blades, flaps and belly.



Picture 1, showing damage caused to aircraft after landing

1.4 Other Damage

- 1.4.1 There was no other damage.

1.5 Personnel Information

Nationality	South African	Gender	Male	Age	43
Licence Number	*****	Licence Type	Private		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	31 March 2009				
Restrictions	Corrective lenses				
Previous Accidents	None				

Flying Experience:

Total Hours	267,22
Total Past 90 Days	2,5
Total on Type Past 90 Days	2,5
Total on Type	83,22

1.6 Aircraft Information

Airframe:

Type	Beechcraft	
Serial Number	D5058	
Manufacturer	Beech Aircraft Corporation	
Date of Manufacture	Unknown	
Total Airframe Hours (At time of Accident)	4276,47	
Last MPI (Date & Hours)	26 November 2007	4264,34
Hours since Last MPI	12,13	
C of A (Issue Date)	21 October 2004	
C of R (Issue Date) (Present owner)	19 January 2004	
Operating Categories	Standard (Part 135)	

Engine:

Type	Continental IO-470N
Serial Number	95272-1-N
Hours since New	2220,75
Hours since Overhaul	162,71
Date of Overhaul/Manufacturer	5 January 2003

Propeller:

Type	McCauley 2A 36C23-P-EG
Serial Number	815715
Hours since New	Unknown
Hours since Overhaul	162,54
Date of Overhaul/Manufacturer	17 March 2003

1.6 Meteorological Information

The following information was extracted from the pilot questionnaire:

Wind direction	90°	Wind speed	5 knots	Visibility	Poor
Temperature	10 °C	Cloud cover	None	Cloud base	Unknown
Dew point	Unknown				

1.8 Aids to Navigation

- 1.8.1 The aircraft was fitted with standard navigational aids certified for this type of aircraft, and there was no record of reports of failures on the navigational aids prior to the accident.

1.9 Communications

- 1.9.1 The aircraft was fitted with standard communications equipment for the aircraft type and there was no any report of failures on the communication system prior to the accident. The pilot was communicating with the ATC on frequency 124,8 MHZ.

1.10 Aerodrome Information

Aerodrome Location	Thabazimbi
Aerodrome Co-ordinates	S 24°34'42.0" E 027°25'00.0"
Aerodrome Elevation	3200 feet
Runway Designations	07/25
Runway Dimensions	1220 metres
Runway Used	25
Runway Surface	Gravel
Approach Facilities	None

1.11 Flight Recorders

- 1.11.1 The aircraft was not fitted with a cockpit voice recorder (CVR) or a flight data recorder (FDR) and these were not a regulatory requirement for the aircraft.

1.12 Wreckage and Impact Information

- 1.12.1 After the aircraft touched down, the aircraft skidded for approximately 130 metres in a straight line before coming to a standstill. There was substantial damage to the propeller and the bottom fuselage sustained minimum scraping damage.



Picture 2

1.12.2 The main wheel bay flaps were halfway open and the undercarriage circuit breaker had popped out.

1.13 Medical and Pathological Information

1.13.1 Not applicable.

1.14 Fire

1.14.1 There was no pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The aircraft landed in a wheels-up configuration and the pilot and passenger used safety harnesses. There was no damage to the cabin area. There was substantial damage to the propeller and the bottom fuselage of the aircraft; the accident was therefore considered survivable.

1.16 Tests and Research

1.16.1 During the recovery of the aircraft after the accident, the aircraft was lifted by crane after which the undercarriage was manually extended. No problem was found that could have caused or contributed to the accident. The aircraft was recovered to an approved maintenance organisation (AMO) after the accident. The aircraft was put

on jacks and after performing visual inspection, retraction tests were carried out and no defects could be found on the system. The landing gear indicating system was also inspected and was found to be working normally. The landing gear indicating system consists of a green light and a manual indicator, which were both found to be operating and indicating normally.

- 1.16.2 Further investigation was conducted during the 2000 hour maintenance inspection where the landing gear was dismantled and components were inspected, re-fitted to the aircraft and no anomalies were found after the retraction tests. It was then concluded by the AMO that there was no defect or abnormality that could have caused the failure of the undercarriage during the accident.

1.17 Organizational and Management Information

- 1.17.1 The pilot was in possession of a private pilot's licence and was also the owner of the aircraft.
- 1.17.2 The AMO that certified the last maintenance inspection on the aircraft prior to the accident was in possession of a valid AMO approval certificate.

1.18 Additional Information

- 1.18.1 This was an offsite investigation. The technical report and the conclusion of the report were based on the findings and the statement provided by the AMO that repaired the aircraft.

1.19 Useful or Effective Investigation Techniques

- 1.19.1 Not applicable.

2. ANALYSIS

- 2.1 The pilot was correctly licensed and was the holder a valid medical flying certificate at the time of the accident.
- 2.2 According to the pilot, the aircraft in question was serviceable prior to the accident. There were no reported defects and observations that could have contributed to the accident. No record of any malfunction or defect was recorded that could have contributed to or caused the accident.
- 2.3 The prevailing weather conditions at the time of the accident were not considered a factor in this accident. The pilot reported that surface wind was 90°/5 knots and a temperature of 10 °C with the visibility reported to be poor.
- 2.4 The pilot reported that during short finals he increased the flaps to 100% and performed his final landing checks, which included the following: Undercarriage down and locked (at this stage the pilot reported that he performed a final check for the undercarriage green indicator as well as the nose gear indicator). According to the pilot, the passenger also indicated that the undercarriage light was green by giving him (the pilot) a thumbs up, flaps full clear to land.

- 2.5 As soon as the aircraft touched down, the pilot reported a loud scratching noise and the voice warning system came on, saying “check undercarriage”. The pilot immediately realised that the undercarriage was not down. The aircraft skidded for approximately 130 metres in a straight line before coming to a standstill.
- 2.6 The investigation found no defect that could have contributed to the accident and the retraction tests were conducted which confirmed no anomalies on the system. Based on the findings after inspections and retraction tests it was concluded that the only possibility that could have led to a wheels-up landing was that the pilot had forgotten to lower or select the undercarriage down during landing.

3. CONCLUSION

3.1 Findings

Aircraft

The aircraft had a valid certificate of registration and a valid certificate of airworthiness.

The maintenance records indicated that the aircraft had been maintained in accordance with existing regulations and approved procedures.

The aircraft was serviceable when dispatched for the flight.

Investigations revealed no anomalies on the undercarriage system.

Crew

The flight crew was properly licensed, and medically fit for the flight in accordance with existing regulations.

Operator

The civil aviation authority safety oversight records for the AMO in respect of procedures and operations were adequate at the time of compiling this report. There were no findings against the organisation that could have contributed to the accident.

Environment

The aircraft crashed on an open, level and prepared gravel runway.

3.2 Probable Cause/s

- 3.2.1 The pilot failed to select the undercarriage down during landing which resulted in the aircraft landing in a wheels-up configuration.

4. SAFETY RECOMMENDATIONS

4.1 Not applicable.

5. APPENDICES

5.1 Not applicable.

Report reviewed and amended by the Advisory Safety Panel on 20 April 2010

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