



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8605	
Aircraft Registration	A2-AHF	Date of Accident	17 January 2009	Time of Accident	1300Z	
Type of Aircraft	Beech Baron 58 (Aeroplane)		Type of Operation	Private		
Pilot-in-command Licence Type		Commercial	Age	35	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	1 670.7		Hours on Type	65.5
Last point of departure		Private aerodrome north of Thabazimbi, Limpopo Province				
Next point of intended landing		Wonderboom Aerodrome (FAWB), Gauteng Province				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
South-west of Thabazimbi (GPS co-ordinates: S 24°20.361' E 027°05.335')						
Meteorological Information		Visibility good, clouds nil, temperature 28°C, wind nil				
Number of people on board	1 + 5	No. of people injured	0	No. of people killed	0	
Synopsis						
<p>On 17 January 2009, the SACAA was informed of an accident that occurred in Thabazimbi. It was found that the aircraft was registered in Botswana Civil Aviation Authority. The SACAA commenced with the onsite investigation. The Botswana Civil Aviation Authority was invited to participate in the investigation and no response was received from them.</p> <p>The pilot, accompanied by five passengers, took off from Riaan Swart private farm in Thabazimbi with the intention of landing at Wonderboom Aerodrome (FAWB). After take-off, during the climb phase, the pilot and the passengers heard a loud banging noise on the right-hand side of the aircraft. The pilot observed the engine indication parameters and they were normal. The pilot then switched off the right-hand engine because he thought it was problematic. He decided to return back to the departure point on one engine, but found that couldn't because the aircraft had begun to descend very quickly. The aircraft started yawing to the right and losing altitude, and became uncontrollable. The aircraft descended rapidly and impacted with the ground and trees.</p> <p>The aircraft was destroyed during the impact sequence. The pilot and the passengers sustained no injuries.</p> <p>It was found that the co-pilot seatbelt and buckle were left hanging outside during flight, prior to the accident.</p>						
Probable Cause						
<p>Following the pilot's decision to shut down number two engine shortly after take-off at low altitude, the aircraft lost height and impacted with terrain.</p> <p>Contributory Remark/s: The pilot displayed poor airmanship.</p>						
IARC Date				Release Date		

AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Beagles Run Investments

Manufacturer : Beechcraft Aircraft Corporation

Model : TH 859

Nationality : Botswana

Registration Marks : A2-AHF

Place : South-west of Thabazimbi

Date : 17 January 2009

Time : 1300Z

All times given in this report are co-ordinated universal times (UTC) and will be denoted by (Z). South African standard time is UTC plus two 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, accompanied by five passengers, took off from Riaan Swart private farm in Thabazimbi with the intention of landing at Wonderboom Aerodrome (FAWB). Prior to take-off, the aircraft was refuelled with 227 l of Avgas LL100 fuel. After take-off, during the climb phase, the pilot and the passengers heard a loud banging noise on the right-hand side of the aircraft. The pilot observed the engine indication parameters, and they were normal. The aircraft continued to climb and the noise continued, but louder. The pilot levelled out at approximately 5000 ft above ground level (AGL) wanting to gain forward speed.
- 1.1.2 The pilot reduced the right-hand side engine power and proceeded with the standard engine shut-down procedures. At this point, the pilot's intention was to proceed back to the departure point on one engine. He then elected to attempt to restart the engine but the aircraft began losing altitude, speed and directional control at an increasing rate. The pilot decided to abort the engine restart and focused only on controlling and landing the aircraft.

1.1.3 At that stage, the aircraft was turning towards the dead engine. The pilot looked for a safe landing area, but ran out of time as the aircraft was descending very quickly. The aircraft heavily impacted with the ground and trees during daylight. The aircraft was destroyed by the impact during the accident sequence. The pilot and the passengers disembarked from the aircraft unharmed.

1.2 Injuries to Persons:

Injuries	Pilot	Crew	Pass.	Other
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	-	-	-	-
None	1	-	5	-

1.3 Damage to Aircraft:

1.3.1 The aircraft was destroyed.



Figure 1: The aircraft wreckage in a bush

1.4 Other Damage:

1.4.1 There was no other damage caused.

1.5 Personnel Information:

1.5.1 Pilot-in-command:

Nationality	South African	Gender	Male	Age	35
Licence Number	*****	Licence Type	Commercial		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instruments Rating Grade (A), Instructors Rating, Night Rating				
Medical Expiry Date	29 June 2009				
Restrictions	None				
Previous Accidents	None				

NB: The pilot was in possession of both Botswana DCA and South African CAA issued licences. Both licences and the medical dates were valid prior to the accident.

Flying Experience:

Total Hours	1 670.7
Total Past 90 Days	68.2
Total on Type Past 90 Days	40.1
Total on Type	65.5

1.6 Aircraft Information:

1.6.1 Airframe:

Type	Beech Baron 58	
Serial Number	TH 859	
Manufacturer	Beechcraft Aircraft Corporation	
Date of Manufacture	1977	
Total Airframe Hours (At Time of Accident)	5 187.5	
Last MPI (Date & Hours)	18 June 2008	5 112.9
Hours Since Last MPI	74.6	
C of A (Issue Date)	12 February 1991	
C of A (Expiry Date)	02 March 2009	
C of R (Issue Date) (Present Owner)	04 July 2005	
Operating Categories	Private	

Note: The SACAA was not in possession of the aircraft file, therefore the investigators requested the Botswana Civil Aviation Authority to provide all the relevant information pertaining to the aircraft. However, only the Certificate of Airworthiness (C of A) and the Certificate of Registry (C of R) were faxed. No other aircraft information was sent to the SACAA. The aircraft was maintained in South Africa, at Wonderboom Aerodrome (FAWB). All the aircraft maintenance records (logbooks) were easily accessible. The investigator in charge (IIC) found it unnecessary to wait for the other information from Botswana and commenced with the investigation. The last annual inspection that was carried out on the aircraft prior to the accident was certified on 18 June 2008 by an aircraft maintenance

organisation (AMO). The person that certified the task held a valid aircraft maintenance engineer (AME) licence.

Engine No. 1:

Type	1-0520-C
Serial Number	816791
Hours Since New	1 385
Hours Since Overhaul	Not known

Engine No. 2:

Type	10-520-C
Serial Number	298857-R
Hours Since New	614.4
Hours Since Overhaul	Not known

Engine No. 1 propeller:

Type	PHC-V3YF-2UF/FC 7663-212
Serial Number	ED3781A
Hours Since New	1 804.8
Hours Since Overhaul	431.75

Engine No. 2 propeller:

Type	PHC-V3YF-2UF/FC 7663-212
Serial Number	ED3779A
Hours since New	1 804.8
Hours since Overhaul	431.75

1.6 Meteorological Information:

1.6.1 The following weather information was obtained from the pilot questionnaire:

Wind Direction	East	Wind Speed	Calm	Visibility	Good
Temperature	28°C	Cloud Cover	1/8	Cloud Base	10 000 ft
Dew Point	Unknown				

1.8 Aids to Navigation:

1.8 The aircraft was fitted with the standard navigational aids certified for the aircraft type and none was reported unserviceable prior to the accident.

1.9 Communications:

1.9.1 There was no communication with air traffic control (ATC) services as the aircraft was operated outside of controlled space.

1.9.2 The pilot broadcasted his intentions on 124.8 MHz.

1.10 Aerodrome Information:

1.10.1 The aircraft took off from an unregistered aerodrome and crashed into a bush.

1.11 Flight Recorders:

1.11.1 The aircraft was not fitted with either a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor were these required by the regulations.

1.12 Wreckage and Impact Information:

1.12.1 The aircraft collided with the trees after impact. Pre-impact flight controls integrity was established at the site.

1.12.2 The engine number 1 propeller showed signs of the engine operating at full power settings at the time of impact, namely major rearward bending and significant impact damage on all three blades. The engine number 2 propeller was found in a feathered position at the accident site. The aircraft impacted the ground with the undercarriage retracted.

1.12.3 There was evidence of damage on the flight controls. Tree impact marks were evident on both wings and the aircraft belly. The fuselage aft of the pilot's seat remained relatively intact. The tail section of the fuselage was destroyed. The instrument panel was intact and offered useful information about the pre-impact indications.

1.13.4 Both fuel tanks were found intact after the impact sequence and were full of Avgas LL100 for reciprocating engines. Both fuel selectors were found opened during the onsite investigation.



Figure 2: The first point of impact and final position of the main wreckage

1.13 Medical and Pathological Information:

1.13.1 The pilot and the passengers did not sustain any injuries.

1.14 Fire:

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival Aspects:

1.15.1 With the exception of the passenger seated on the right, this accident was considered survivable because the pilot and the passengers were properly restrained and secured by making use of the aircraft four-point safety harnesses.

1.16 Tests and Research:

1.16.1 The investigator in charge did not find it necessary to conduct any test and research on any part or component of the aircraft following the onsite investigation. This decision was based on the evidence that was gathered during the onsite investigation, which indicated that the aircraft and all flying controls were intact at the time of the accident. According to the available aircraft documentation, no reported defects were recorded since the last maintenance inspection was certified.

1.16.2 Figure 3 below shows engine number two throttle in the OFF position, indicating that number two engine was not running prior the accident.



Figure 3: The number 2 engine throttle pulled backward/in the off position at the accident site

1.16.2.1 1.16.3 During the inspection of the co-pilot seatbelt (safety harness) (Figure

4) no anomalies or defects could be found with respect to its functionality.



Figure 4: View of the co-pilot safety belt

1.17 Organisational and Management Information:

1.17.1 This was a private flight.

1.17.2 The last annual inspection that was carried out on the aircraft prior to the accident was certified on 18 June 2008 by the AMO.

1.18 Additional Information:

1.18.1 None.

1.19 Useful or Effective Investigation Techniques:

1.19.1 None.

2. ANALYSIS:

2.1 The available information indicated that fine weather conditions prevailed in the area at the time of the accident. The prevailing weather conditions were therefore not considered to have had any bearing on the accident.

2.2 The aircraft was properly maintained and no documented evidence was found indicating a defect or possible malfunctioning prior to the flight that could have contributed to or have caused the accident.

2.3 The pilot held both South African and Botswana licence.

- 2.4 The pilot had flown a total of 65.5 hours on the aircraft type and 1 670.7 total flying hours. This was the pilot's first flight of the day. According to the available information, the aircraft took off from a private farm and during the climb phase, the pilot and the passengers heard a very loud banging noise on the right-hand side of the aircraft (the co-pilot's side).
- 2.5 The pilot thought that the loud banging noise was from the right-hand side engine, and immediately proceeded with the normal engine shut-down procedures. The pilot later asked the passengers to ensure that they were all strapped into their seats. It was at this time that one of the passengers, seated on the co-pilot's seat, realised that he had not been strapped in his seatbelt and buckle were hanging out of the aircraft and it was the source of the noise.

3. CONCLUSION:

3.1 Findings:

- 3.1.1 The pilot was the holder of a valid commercial licence with the aircraft type endorsed in his logbook.
- 3.1.2 3.1.2 The aircraft was properly maintained, with the last annual inspection certified on 18 June 2008.
- 3.1.3 All engine controls were accounted for. The number two engine was switched off during flight prior to the accident.
- 3.1.4 The flight was operated as a general aviation flight under VFR.
- 3.1.5 Fine weather conditions prevailed at the time, and weather was considered as not having a bearing on the accident.
- 3.1.6 An amount of 227 l of fuel (Avgas LL100) was uplifted prior to take-off.
- 3.1.7 The co-pilot seatbelt and buckle were left hanging outside the aircraft during flight.

3.2 Probable cause/s:

- 3.2.1 Following the pilot's decision to shut down number two engine shortly after take-off at low altitude, the aircraft lost height and impacted with terrain.

Contributory Factor/s:

- 3.3.1 The pilot displayed poor airmanship.

4. SAFETY RECOMMENDATIONS:

- 4.1 None.

5. APPENDICES:

5.1 None

Report reviewed and amended by Advisory Safety Panel: 29 September 2009.

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