



Ref: 0358

SOUTH AFRICAN CIVIL AVIATION AUTHORITY

INCIDENT REPORT – EXECUTIVE SUMMARY

Aircraft Registration	ZU-BEA	Date of Incident	31 October 2004	Time of Incident	1020Z
Type of Aircraft	BUSH-BABY 500		Type of Operation	Private Flight	
Pilot-in-command Licence Type	Commercial	Age	58	Licence Valid	Yes
Pilot-in-command Flying Experience	Total Flying Hours	19779	Hours on Type	2.3	
Last point of departure	Petit Aerodrome, FARA				
Next point of intended landing	Rustenburg Aerodrome, FARG				
Location of the incident site with reference to easily defined geographical points (GPS readings if possible)					
Open field, approximately 3nm East of Rustenburg Aerodrome					
Meteorological Information	CAVOK, Temperature: 27°C, Surface Wind: Light and variable, Cloud cover: clear				
Number of people on board	1 + 0	No. of people injured	0	No. of people killed	0
Synopsis	<p>The pilot was approached by the owner to fly the aircraft from Petit aerodrome to Rustenburg aerodrome after it had not been flying for approximately 6 months.</p> <p>Prior to take-off, the aircraft was refuelled with approximately 20 litres of fuel in each tank giving an endurance of 2 hours and 30 minutes. According to the pilot, the aircraft performed satisfactorily in all respects after take-off and all indications were normal. After a flight time of approximately 1 hour, with the aircraft in the vicinity of Brits, the engine started to loose power. At the same time, the pilot noticed air bubbles in the fuel line leading from the fuel tanks to the firewall. After a few seconds the engine regained full power and the pilot continued with the flight with no further problems until he was approximately 3nm East of Rustenburg aerodrome, when the engine failed completely.</p> <p>The pilot was not able to restart the engine and executed a forced landing on an open field. The landing was uneventful and the aircraft was not damaged. Inspection of the aircraft revealed that the left-hand fuel tank was completely empty and the right-hand tank was still approximately half full as it had been prior to departure, although the flight was conducted with both fuel selectors in the "ON" position.</p> <p>Due to the fact that the landing area was situated near an informal settlement the pilot did not feel comfortable leaving the aircraft unattended. After a few minutes the pilot was able to start the engine and after carrying out a number of power checks he decided to take-off and fly the remaining 3nm to Rustenburg. While he was taxiing back to the beginning of the field, the main landing gear passed through a shallow furrow which caused the tail of the aircraft to lift resulting in a propeller strike. No further damage was caused and the pilot was not injured. The aircraft was then loaded on a low bed truck and transported to Rustenburg aerodrome.</p>				
Probable Cause					
The fuel contents of the left hand fuel tank was exhausted during flight which resulted in fuel starvation and subsequent engine failure. The reason for the right hand fuel tank not to supply fuel to the engine while the fuel selector was in the "ON" position could not be determined conclusively but the following contributory factors were identified: Difference in the orientation of the fuel vent/ram-air lines at the tank caps would cause a difference in ram-air pressures in either of the tanks which would affect rate of fuel flow from either tank. Propeller slip-stream effect would affect direction of airflow that is encountered by each tank vent line and could also affect the ram-air pressures and hence fuel flow rates.					
IARC Date		Release Date			