



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/9723	
Aircraft Registration	N53757	Date of Accident	16 July 2018		Time of Accident	1216Z
Type of Aircraft	Super Decathlon 8KCAB BL30		Type of Operation	Private (Part 91)		
Pilot-in-command Licence Type	PPL		Age	51	Licence Valid	Yes
Pilot-in-command Flying Experience	Total Flying Hours		1442.25		Hours on Type	133.50
Last point of departure	Mwana Private Airstrip, Limpopo Province					
Next point of intended landing	Brits Airfield (FABS), North West Province					
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
Roodekopies Dam with GPS coordinates S25°24'57.66" E027°34'59.36" and a field elevation of 3345ft						
Meteorological Information	Wind Direction: North; Wind Speed: 5-10kt; Air Temperature: 18; Visibility: Good					
Number of People On-board	1 + 0	No. of People Injured	0	No. of People Killed	0	
Synopsis	<p>Two aircrafts with registrations N53757 and ZS-AXX, both with sole occupants, took off from Mwana Game Lodge in Limpopo Province, heading to Brits Airfield (FABS) with the intention to uplift fuel for the intended tour around the North West Province. According to the pilots' route discussion, they were to route via Roodekopies Dam for a scenic flight on their way to Brits Airfield (FABS). While flying overhead Roodekopies, N53757 began a low-level scenic flight at a height of approximately 400ft. According to the pilot, the aircraft was flying overhead at approximately 800m within the dam vicinity when the engine started running rough and lost power. This led to the aircraft descending. The pilot tried to recover the engine power but was unsuccessful. He then initiated a glide mode in an attempt to clear ashore, however, he had insufficient height; thereafter, ditched the aircraft into the water.</p> <p>According to eyewitnesses who were busy with maintenance work on the northern bank of the dam, two aircrafts approached from the northern side; the red and white aircraft, which was flying lower than the other, descended rapidly towards the dam's water surface. It then made contact with the water surface with its front wheels at high speed, flipped over and began to sink. The pilot jumped out of the aircraft from the right hand-side door and began to swim ashore towards the left side of the dam. Later, a helicopter arrived at the scene, picked up the pilot and headed towards Brits.</p> <p>The pilot escaped with no injuries; the aircraft sustained damage to the engine bottom cowlings before it got immersed in the water. Recovery of the aircraft was carried out seven days after the accident occurred.</p> <p>The engine was recovered for further investigation, and no evidence of internal or external damage to the engine was found that could explain the reasons for power loss and engine stopping. The aircraft had enough fuel for the intended flight. The Federal Aviation Administration (FAA) advisory circular AC 20-105B was studied to get to some explanation as to why the engine lost power and, subsequently, stopped. However, this study could not conclusively identify the cause of engine power loss or stoppage.</p> <p>The investigation revealed that the aircraft's engine lost power and, hence, stopped running, which resulted in the aircraft losing height and, thus, impacting with the dam's water surface. The cause of engine failure could not be determined.</p>					
SRP Date	19 July 2019		Publication Date	30 July 2019		

Reference Number : CA18/2/3/9723
Name of Owner/Operator : Barrie Eeles
Manufacturer : Bellanca
Model : 8KCAB
Nationality : USA
Registration Marks : N53757
Place : Roodekoppies Dam, North West Province
Date : 16 July 2018
Time : 1216Z

All times given in this report are Coordinated 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 (CAR) 2011, 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 apportion blame or liability.***

Investigation Process:

The Accident was notified to the Accident and Incident Investigations Division (AIID) on 16 July 2018 at about 1216Z. The Investigator/s went to Roodekoppies Dam on 17 July 2018 where they coordinated with all authorities on site by initiating the accident investigation process according to CAR Part 12 and investigation procedures. The AIID of the South African Civil Aviation Authority (SACAA) is leading the investigation as the Republic of South Africa is the State of Occurrence.

Notes:

1. Whenever the following words are mentioned in this Report with first Capital letter, they shall mean the following:

- Accident – this investigated accident*
- Aircraft – the Super Decathlon 8KCAB BL30 involved in this Accident*
- Investigation – the investigation into the circumstances of this Accident*
- Pilot – the pilot involved in this Accident*
- Report – this Accident Report*

2. Photos and figures used in this Report are taken from different sources and may be adjusted from the original for the sole purpose of improve the clarity of the Report. Modifications to images used in this Report are limited to cropping, magnification, file compression, or enhancement of colour, brightness, contrast, or addition of text boxes, arrows or lines.

Disclaimer:

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

1. FACTUAL INFORMATION

1.1 History of Flight

1.1.1 On 15 July 2018, four aircrafts took off from different aerodromes, with the accident aircraft taking-off from the Rand Aerodrome (FAGM) in Gauteng, on a flight to Mwana Lodge in the Limpopo Province. This flight was uneventful. The group then planned a tour of Limpopo Province and the North West Province. On 16 July 2018, the group intended to fly to the North West Province to a lodge in one of the holiday resorts. Two aircrafts ZS-AXX and the accident aircraft N53757 – took off first from Mwana Private Airstrip at 1200Z and routed to FABS to uplift fuel. Both aircrafts were occupied by sole pilots.

It was to be decided at Brits as to which game lodge they were to stay in overnight. While en route to FABS, the pilots of the two aircrafts decided to route via Roodekoppies Dam for a scenic flight before going to uplift fuel at FABS.

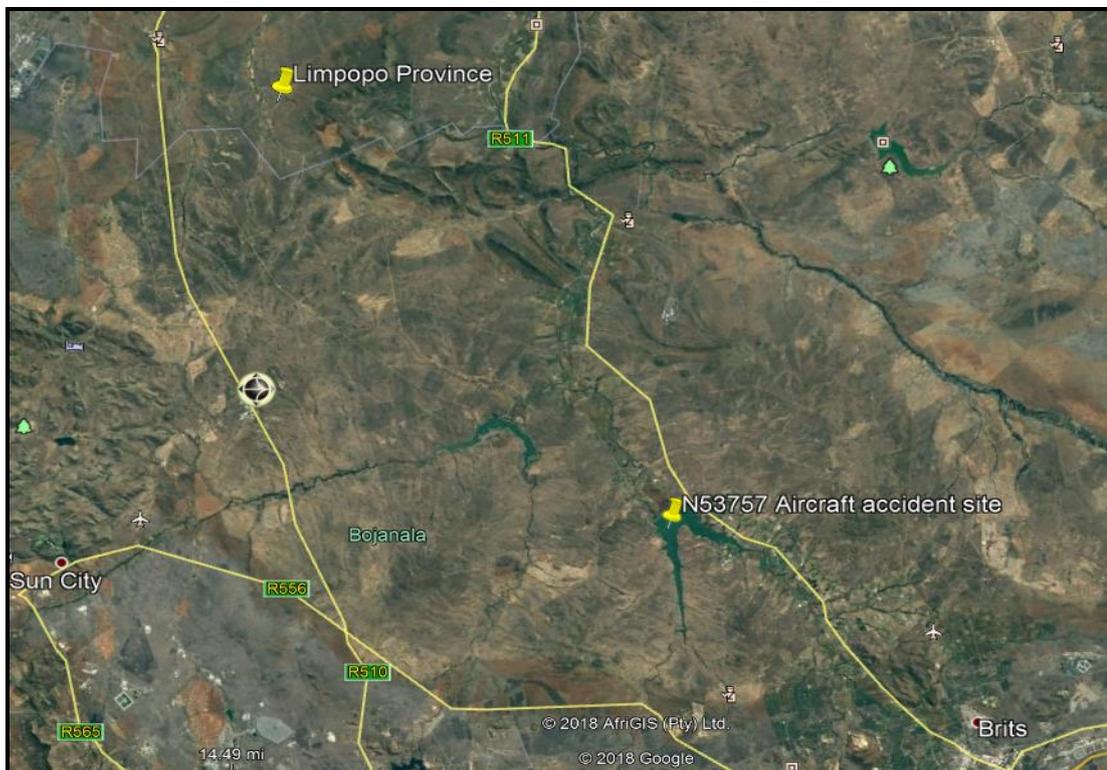


Figure 1: The accident location

Source: Google Maps

1.1.2 The pilot (in the accident aircraft) stated that while approaching Roodekoppies Dam, he began flying the aircraft at a height of approximately 400 feet (ft) above ground level (AGL). While the aircraft was sufficiently overhead the dam, he noticed that the aircraft's engine began running rough. He then initiated the engine power recovery but was unsuccessful. The pilot further stated that he tried to control the aircraft's glide as the engine was still running but not producing sufficient power to sustain flight. Subsequently the aircraft engine stopped. Due to the aircraft's insufficient height, the pilot had no other choice but to ditch it into the water. He then communicated his situation to the other aircraft (ZS-AXX) which, in turn, broadcasted to the local air traffic seeking rescue help. Following the ditching of the aircraft, the pilot unstrapped himself, jumped into the water and began swimming

ashore towards the left-hand side of the dam, leaving the aircraft completely submerged in water.



Figure 2: The aircraft being taken out of the dam

1.1.3 According to eyewitnesses who were busy with maintenance work on the northern bank of the dam, two aircrafts approached from the north side of the dam flying at a low height of approximately 100ft above the dam's water level. A red and white aircraft was flying lower than the other. As they were flying, the red and white aircraft began to fly very low towards the middle of the dam on the right-hand side section. Soon after, the eyewitnesses saw high waves from behind the aircraft whereafter, it suddenly raised the tail in an uncontrolled manner. They then spotted the pilot jumping into the water from the right-hand side of the aircraft and began swimming ashore towards the left-hand side of the dam. A local helicopter pilot, who earlier heard about the crisis, came to the accident site and found the pilot at the shore of the dam. He airlifted him to the local hospital for observation. The pilot was not injured during the accident sequence; the aircraft was recovered seven days after the accident. The aircraft sustained damage to the engine bottom cowlings.

1.1.4 The aircraft accident occurred during daylight meteorological conditions in Roodekoppies Dam, North West Province, with GPS coordinates S25°24'57.66" E27°34'59.36" with a field elevation of 3345ft.

1.2 Injuries to Persons

1.2.1 The pilot did not sustain any injuries during the accident sequence.

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

1.3 Damage to Aircraft

1.3.1 The aircraft sustained visible damage to the engine cowling and was submerged in water for seven days.



Figure 3: Damaged bottom engine cowlings

1.4 Other Damage

1.4.1 Other damage was limited to water contamination as a result of fuel spillage from the aircraft into the dam.

1.5 Personnel Information

Nationality	South African	Gender	Male	Age	51
Licence Number	*****	Licence Type	Private Pilot Licence		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Aerobatic				
Medical Expiry Date	31 July 2020				
Restrictions	None				
Previous Accidents	None				

1.5.1 The pilot was operating an American-registered aircraft without the FAA-issued licence; this was done in terms of Code of Federal Regulations (CFR) 61.3 Requirement for certificates, ratings and authorisations.

(a) Required pilot certificate for operating a civil aircraft of the United States. No person may serve as a required pilot flight crew member of a civil aircraft of the United States, unless that person:

(1) Has in the person's physical possession or readily accessible in the aircraft when exercising the privileges of that pilot certificate or authorisation—

(vii) When operating an aircraft within a foreign country, a pilot licence issued by that country may be used.

Flying Experience:

Total Hours	1442.25
Total Past 90 Days	22.30
Total on Type Past 90 Days	10.55
Total on Type	133.50

1.5.2 The pilot is a South African citizen who is a holder of a South African private pilot licence issued by the South African Civil Aviation Authority (SACAA) in accordance with the Civil Aviation Regulation (CAR) 2011 as amended. Part of the licensing procedure requires that the pilots study and understand Air-Law in relation to the local Regulating Authority. Following the accident, the pilot did not report the occurrence until he was contacted by the local investigators. During his interview, he informed the authorities that he did not know what procedure to follow as he was flying an American-registered aircraft.

Note: CAR 2011, Part 12 as amended requires the following: Part 12.02.1 (1) The PIC of an aircraft involved in an accident within the Republic, or if he or she is killed or incapacitated, a flight crew member, or if there are no surviving flight crew

members or if they are incapacitated, the operator or owner, as the case may be, shall, as soon as possible but at least within 24 hours since the time of the accident, notify—

- (a) the Executive Manager: Aircraft Accident and Incident Investigation;
- (b) an ATSU; or
- (c) the nearest police station,
of such accident.

1.6 Aircraft Information

- 1.6.1 The American Champion 8KCAB Super Decathlon is a two-seat, fixed conventional gear light airplane, designed for flight training and personal use. It is capable of sustaining aerobatic stresses between +6g and -5g. The Decathlon entered production in the United States in 1970 as a more powerful and stronger complement to the American Champion Citabria line of aircraft. The aircraft is powered by Lycoming AEIO-360-H1A. The accident aircraft was imported from the United State of America (USA) in March 2013 and was never registered with the local authorities – SACAA aircraft registration – as it remained on its foreign registration. It has since been issued with an airworthiness certificate on 27 January 1976 from the country of origin (USA) which does not expire.



Figure 4 Shows the aircraft type

Airframe:

Type	8KCAB BL30	
Serial Number	235-76	
Manufacturer	American Champion Aircraft	
Date of Manufacture	1976	
Total Airframe Hours (At time of Accident)	4346.2	
Last MPI (Date & Hours)	5 July 2018	4346.2
Hours Since Last MPI	3.05	
C of A (Initial and Current Issue Date) (USA)	27 January 1976	03 December 2013
US Issued C of R (Issue and Expiry Date) (Present Owner)	03 December 2013	31 December 2019
Operating Categories	Normal Acrobatics	

1.6.2 Federal Aviation Administration (FAA) Order 8130.2J paragraph 4-3. Flight Operations Outside the United States.

A special airworthiness certificate does not authorise flight operations over a foreign country without the permission of that country. However, the FAA still issues the certificate when the applicant intends to operate the aircraft over other countries as long as the applicant meets requirements for that certificate. A U.S. special airworthiness certificate is often helpful to a Civil Aviation Authority (CAA) when issuing its permission to operate the aircraft in or over its country. If the FAA knows the affected CAA will not permit operation of the aircraft in or over its country, the FAA cannot deny issuance of the certificate if the applicant has met requirements for that certificate. In any case, an Air Safety Inspector (ASI) should make the applicable CAA(s) aware of the aircraft, its category or experimental purpose, and the operating limitations for the aircraft.

1.6.3 No evidence could be found of registration in the RSA in the SACAA files, thus, no Certificate of Registration (CoR) or Certificate of Airworthiness (CoA) was issued by the SACAA.

1.6.4 The aircraft arrived in the RSA on March 2013 and was neither deregistered in the USA nor was it registered in RSA.

Engine:

Type	Lycoming
Serial Number	L-25971-51A
Hours Since New	415.5
Hours Since Overhaul	3.05

Propeller:

Type	Hartzell HC-C2YR-4CF
Serial Number	AU119G8B
Hours Since New	337.5
Hours Since Overhaul	N/A

- 1.6.5 A review and study of maintenance records was conducted and all was found to be in order. The aircraft was maintained by an FAA-authorized aircraft maintenance organisation (AMO). The aircraft maintenance engineer (AME) is an owner of an AMO that was approved by the FAA. The AMO services the USA-registered aircrafts and those registered in the RSA. The previous mandatory periodic inspection (MPI) was conducted by the AMO in accordance with manufacturer's approved procedures. The SACAA had no jurisdiction to the maintenance or airworthiness on the aircraft despite operating within RSA borders.

1.7 Meteorological Information

- 1.7.1 Meteorological information as obtain from the pilot's report:

Wind direction	North	Wind speed	±5-12kt	Visibility	CAVOK
Temperature	18°C	Cloud cover	Unknown	Cloud base	Unknown
Dew point	None				

1.8 Aids to Navigation

- 1.8.1 The aircraft was equipped with standard navigational equipment as required by the Regulator. There were no defects reported with the navigational equipment prior to the flight.

1.9 Communication

- 1.9.1 The aircraft was equipped with standard communication equipment as required by the Regulator. There were no defects reported with the communication equipment prior to the flight.

1.10 Aerodrome Information

- 1.10.1 The accident occurred at Roodekoppies Dam at Global Positioning System (GPS) coordinates S25°24'57.66" E027°34'59.36" with field elevation of 3 345ft above mean seal level (AMSL).

1.11 Flight Recorders

1.11.1 The aircraft was neither equipped with a flight data recorder (FDR) or cockpit voice recorder (CVR), nor were these a requirement to be installed, according to the Regulations.

1.12 Wreckage and Impact Information

1.12.1 The aircraft accident occurred at Roodekoppies Dam in the North West Province. The dam is resident to carnivorous animal species that feed on the fish and any available food. According to the pilot's report, the aircraft was ditched into Roodekoppies Dam during a forced landing, following a reported engine stoppage. The aircraft then sank to the bottom of the dam.



Figure 4: Aerial view of the accident site

Source: Google Maps

1.12.2 On the day of aircraft recovery, it was found at approximately seven metres below the water surface at GPS coordinates S25°24'57.66" E 027°34'59.36". After ditching the aircraft, the pilot had disembarked the aircraft and swam approximately 730m in a 108 degrees direction from the aircraft to the shore. The aircraft was intact and only sustained water and crash damage to the bottom engine cowlings. The damage is consistent with damages caused by impact with water at fairly low speed, as a result of a low forward speed. There was evidence of fuel dripping from the fuel tank at the accident scene during recovery.



Figure 5: Recovery of the aircraft

1.13 Medical and Pathological Information

1.13.1 None.

1.14 Fire

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

1.15 Survival Aspects

1.15.1 The accident was considered survivable as there was no damage on the cockpit that would have caused serious or fatal injuries to the pilot. The pilot had also made use of the shoulder harness.

1.16 Tests and Research

1.16.1 Following the aircraft recovery, the investigation team discussed with the owner to keep the engine safe until such time when the engine would be examined further. However, the owner, without informing the investigation team, took the engine to an AMO where it was dismantled. Thereafter, the engine was cleaned once the damage inspection was completed. During follow-up with the owner, the investigation team were informed that the AMO will send a report.

Note: CAR 2011, Part 12 as amended requires the following: Part 12.04.3 The aircraft, the wreck or wreckage and anything transported therein and any marks resulting from the accident which may be of assistance in an investigation, shall remain under the control of the investigator-in-charge until released by such investigator-in-charge.

1.16.2 The investigation team visited the AMO and found the engine dismantled and cleaned. As observed, the engine parts which were reported to have defects that could have led to the reported engine power loss did not show evidence of damage or wear that could have contributed to the engine power loss. Moreover, when asked why did the AMO not involve the investigating team at the time of the engine teardown, the AMO responded that they did not know what procedure to follow.

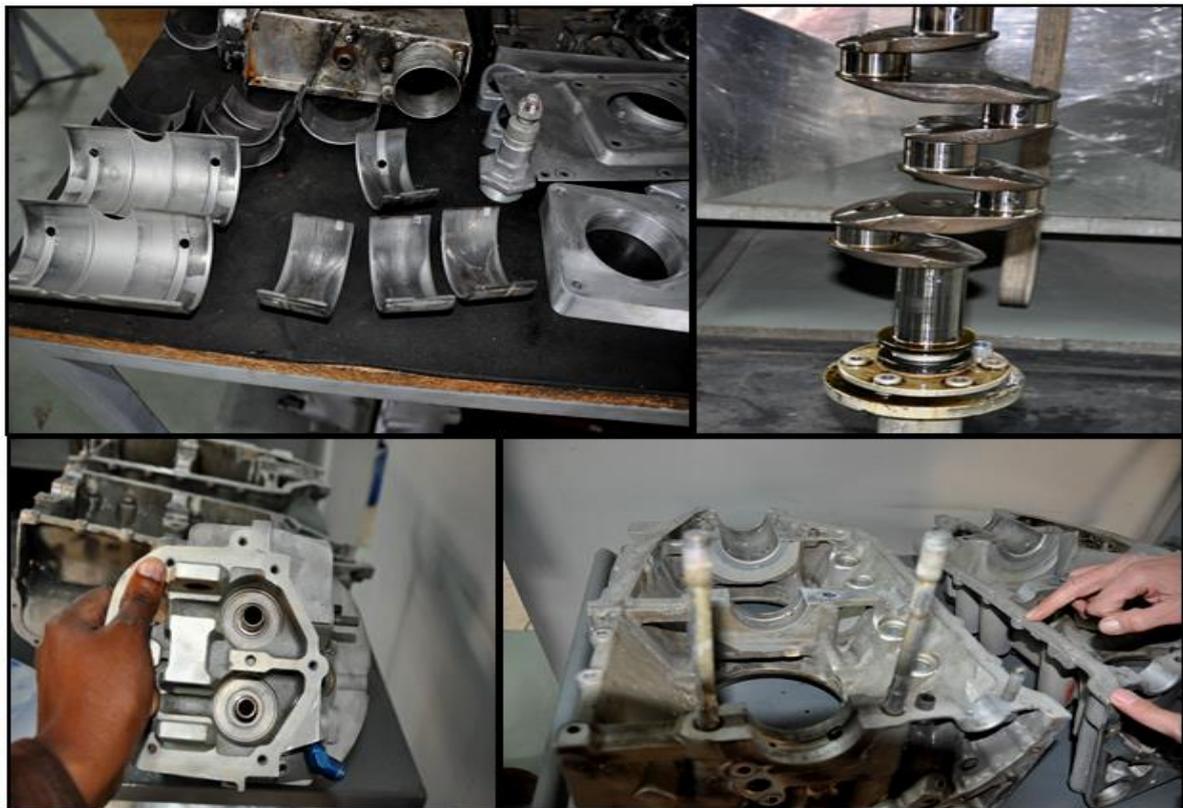


Figure 6: Engine parts as found following the teardown inspection

1.17 Organisational and Management Information

1.17.1 The aircraft was first imported into South African in March 2013. It was never registered within the local authority's register. According to available information, the aircraft was maintained by the local authority approved Aircraft Maintenance Organisation (AMO), which also holds a Federal Aviation Administration (FAA) authorisation certificate to maintain the aircraft type. At the time of the accident, the aircraft was operated privately. According to FAA rules, the aircraft falls under Part 91 operations category. The aircraft holds a certificate of airworthiness, which was issued on 1 January 1976 during aircraft approval from the manufacture in the country of origin. The certificate does not indicate expiry date. A study of the maintenance records revealed that recurrent and preventive maintenance were

carried as per the requirement of that FAA to sustain the airworthiness certificate by an FAA-authorized AME.

1.17.2 The owner of the aircraft is a South African national and in possession of a local private pilot licence, issued in accordance with the local regulator's approved procedures. During the accident follow-up, when asked why he did not report the accident, he stated that he did not know what procedure to follow as he was operating an American-registered aircraft type. This was in contravention with the local regulatory procedure as stipulated in Part 12 of the Civil Aviation Regulation Act. The part is included in the Air-Law syllabus of pilot licensing requirements. However, there is no part of the regulation that prohibit the pilot from operating an aircraft with a foreign registration in the foreign state of operation. According to the FAA, their regulation does not restrict any qualified pilot who holds a foreign pilot licence with relevant requirements to fly their state-registered aircrafts.

1.18 Additional Information

1.18.1 The following regulations were extracted from both South African Civil Aviation Regulations (CAR) 2011 and Applicable Foreign Export Regulations of the Federal Aviation Administration (FAA).

SUBPART 2: ACCIDENT OR INCIDENT NOTIFICATION PROCEDURES ***Notification of Accidents***

12.02.1 (1) *The PIC of an aircraft involved in an accident within the Republic, or if he or she is killed or incapacitated, a flight crew member, or if there are no surviving flight crew members or if they are incapacitated, the operator or owner, as the case may be, shall, as soon as possible but at least within 24 hours since the time of the accident, notify—*

- (a) the Executive Manager: Aircraft Accident and Incident Investigation;*
- (b) an ATSU; or*
- (c) the nearest police station, of such accident.*

(2) *If an ATSU or police station is notified of an accident in terms of sub-regulation (1), such ATSU or police station shall, immediately on receipt of the notification, notify—*

- (a) the Executive Manager: Aircraft Accident and Incident Investigation; and*
- (b) where such accident occurs on an aerodrome, the aerodrome manager.*

91.06.32 Minimum Heights

(1) *Except when necessary for taking off, or landing, or except with prior written approval of the Director, no aircraft—*

- (a) shall be flown over congested areas or over an obvious open-air assembly of persons at a height less than 1 000ft above the highest obstacle, within a radius of 2 000ft from the aircraft;*
- (b) when flown elsewhere than specified in paragraph (a), shall be flown at a height less than 500ft above the ground or water, unless the flight can be made without hazard or nuisance to persons or property on the ground or water and the PIC operates at a height and in a manner that allows*

safe operation in the event of an engine failure; and

- (c) shall circle over or do repeated overflights over an obvious open-air assembly of persons at a height less than 3 000ft above the surface.

1.18.2 Service Maintenance and Accreditation

According to available records of the aircraft, the Authorised Person (AP) who is accredited to service US-registered aircrafts that operate in a foreign State can certify and approve the aircraft as serviceable for operations. This is in accordance with FAR 65.95, Inspection authorisation: Privileges and limitations.

(a) The holder of an inspection authorisation may—

(1) Inspect and approve for return to service any aircraft or related part or appliance (except any aircraft maintained in accordance with a continuous airworthiness program under part 121 of this chapter) after a major repair or major alteration to it in accordance with part 43 of this chapter, if the work was done in accordance with technical data approved by the Administrator; and

(2) Perform an annual, or perform or supervise a progressive inspection according to 43.13 and 43.15 of this chapter.

(b) When he exercises the privileges of an inspection authorisation the holder shall keep it available for inspection by the aircraft owner, the mechanic submitting the aircraft, repair, or alteration for approval (if any), and shall present it upon the request of the Administrator or an authorised representative of the National Transportation Safety Board, or of any Federal, State, or local law enforcement officer.

(c) If the holder of an inspection authorisation changes his fixed base of operation, he may not exercise the privileges of the authorisation until he has notified the responsible Flight Standards office or International Field Office for the area in which the new base is located, in writing, of the change.

1.18.3 FAA advisory circular AC 20-105B of 15 June 1998 (Reciprocating engine power loss and trend monitoring) discusses possible causes of engine power loss, failures or stoppages. https://www.faa.gov/documentLibrary/media/Advisory_Circular/ac20-105b.pdf

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

2.1 The pilot is a South African national who holds a valid private pilot licence issued by the SACAA in accordance with CAR 2011, Part 61. The aircraft type was endorsed on his licence and had a valid medical certificate due to expire on 31 July 2020.

2.2 The pilot was not the holder of the FAA-issued licence, however, he operated in

accordance with CFR 61.3 which allowed him to operate an American-registered aircraft with a RSA-issued licence.

- 2.3 Although the pilot claimed he did not know the regulations, the process of the licencing requires that the pilot study and successfully completes an Air-Law assessment. These modules cover the requirements of CAR 2011, Part 12, which relate to the reporting and notification of aircraft accidents and incidents when they occur in the RSA. The pilot did not report the occurrence to the investigation authority and that contravened Regulation CAR 2011, Part 12. The pilot stated that he did not know what procedure to follow as the aircraft was registered in the USA. Furthermore, the pilot took the engine to an AMO/AME for inspection without the consent of the investigators, even after being asked to keep the engine as it was after the accident.
- 2.4 Furthermore, the AMO/AME informed the investigation team that they were not aware of the procedure to follow as they were dealing with the engine from an American-registered aircraft. Thus, the pilot and the AMO/AME disregarded the Regulation CAR 2011, Part 12. The engine components shown to the investigators had no damage that could have contributed to the engine losing power or stop running.
- 2.5 The aircraft was issued with a temporary certificate of airworthiness on 3 December 2013 with an expiry date of 2 January 2014. All relevant export acceptance procedures were completed with the RSA Department of Transport (DoT) and import requirements as per the South African Revenue Services (SARS) compliance. On arrival in the RSA, the aircraft was neither deregistered in the USA nor was it registered with the SACAA. Thus, it remained a USA responsibility for continued airworthiness.
- 2.6 The aircraft's maintenance was undertaken by an FAA approved AMO who had the necessary qualification as required by FAR 65.95.
- 2.7 The pilot was reported to have lowered the aircraft's height to have a better view of the area around the dam. While over the dam, the engine power reduced and the aircraft started losing height as a result, before the engine stopped running. The aircraft impacted the water nose first, at a fairly low forward speed, resulting in the damage to the bottom nose cowling. The pilot managed to get out of the aircraft and swam ashore where he was rescued.
- 2.8 The engine was recovered for further investigation. No evidence of internal or external damage to the engine was found that could explain the reasons for power loss and engine stopping. The aircraft had enough fuel for the intended flight.
- 2.9 The FAA advisory circular AC 20-105B (Reciprocating Engine Power-Loss Accident Prevention and Trend Monitoring) was studied in an attempt to get to some explanation as to why the engine lost power and, subsequently, stopping. This

study could not conclusively identify the cause of engine power loss or stoppage.

2.9.1 The reported weather conditions were favourable for the type of operation undertaken.

2.9.2 The investigation revealed that the aircraft's engine lost power and, hence, stopped running, which resulted in the aircraft losing height and, thus, impacting with the dam's water surface. The cause of engine failure could not be determined.

2 CONCLUSION

3.1. General

From the evidence available, the following findings, causes and contributing factors were made with respect to this accident. These shall not be read as apportioning blame or liability to any particular organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusions heading:

- **Findings** – are statements of all significant conditions, events or circumstances in this accident. The findings are significant steps in this accident sequence but they are not always causal or indicate deficiencies.
- **Causes** – are actions, omissions, events, conditions, or a combination thereof, which led to this accident.
- **Contributing factors** – are actions, omissions, events, conditions or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident or incident occurring, or mitigated the severity of the consequences of the accident or incident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

3.2 Findings

3.2.1 The pilot was issued with a private pilot licence on 27 September 2017 with an expiry date of 30 September 2018. He also was issued with a medical certificate on 30 July 2018 with an expiry date of 31 July 2020. The pilot was not issued with an American licence, however, he was allowed to operate an American-registered aircraft using the SACAA licence in terms of FAA rules CFR 61.3.

3.2.2 The pilot was not intending to report the accident to the investigating authority as

required by CAR 2011, Part 12 as amended.

- 3.2.3 The aircraft was imported into the RSA in March 2013 and was neither deregistered in the USA nor was it registered in RSA.
- 3.2.4 According to the available maintenance records, the aircraft was maintained in accordance with the maintenance procedure by FAA-approved personnel in terms of FAR 65-95.
- 3.2.5 The aircraft lost power and height before the engine stopped running and the aircraft impacting the dam's water surface. The owner was requested to recover the engine and keep it safe and in the condition it was after the accident until the investigators could examine it further, however, the owner proceeded without the investigation team to inspect the engine. No fault was evident in the components shown to the investigating team which could indicate the reasons why the engine lost power and, subsequently, failed.
- 3.2.6 The investigation revealed that the aircraft's engine lost power and, hence, stopped running, which resulted in the aircraft losing height and, thus, impacting with the dam's water surface. The cause of engine failure could not be determined.
- 3.2.7 The aircraft was flying exceptionally low.

3.2 Probable Cause/s

- 3.2.1 The aircraft's engine lost power and, hence, stopped running, which resulted in the aircraft losing height and, thus, impacting with the dam's water surface. The cause of engine failure could not be determined.

4. SAFETY RECOMMENDATIONS

4.1. General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation, and are based on the conclusions listed in heading 3 of this report; the AIID expects that all safety issues identified by the investigation are addressed by the receiving states and organisations.

4.2 Recommendations

- 4.2.1 None.

5. APPENDICES

- 5.1 Appendix A: FAA aircraft licencing
- 5.2 Appendix B: FAA aircraft CoA and CoR
- 5.3 Appendix C: AMO certificate of release to service

FAA REGISTRY

N-Number Inquiry Results

N53757 has Assigned/Multiple Records

JavaScript appears to be disabled. JavaScript is used to display processing date. Enable JavaScript to view date.

Data Updated each Federal Working Day at Midnight



Aircraft Description

Serial Number	235-76	Status	Valid
Manufacturer Name	BELLANCA	Certificate Issue Date	12/03/2013
Model	8KCAB	Expiration Date	12/31/2019
Type Aircraft	Fixed Wing Single-Engine	Type Engine	Reciprocating
Pending Number Change	None	Dealer	No
Date Change Authorized	None	Mode S Code (base 8 / oct)	51546625
MFR Year	1976	Mode S Code (base 16 / hex)	A6CD95
Type Registration	Corporation	Fractional Owner	NO

Registered Owner

Name	INTERNATIONAL AIR SERVICES INC TRUSTEE		
Street	701 S CARSON ST STE 200		
City	CARSON CITY	State	NEVADA
County	CARSON CITY	Zip Code	89701-5239
Country	UNITED STATES		

Airworthiness

Engine Manufacturer	LYCOMING	Classification	Standard
Engine Model	IO-320 SERIES	Category	Normal
			Acrobatic
A/W Date	01/27/1976	Exception Code	No
<p>The information contained in this record should be the most current Airworthiness information available in the historical aircraft record. However, this data alone does not provide the basis for a determination regarding the airworthiness of an aircraft or the current aircraft configuration. For specific information, you may request a copy of the aircraft record at http://aircraft.faa.gov/e.gov/ND/</p>			

Other Owner Names

None

Temporary Certificates

Certificate Number	T138277	Issue Date	12/03/2013	Expiration Date	01/02/2014
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Fuel Modifications

None

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
STANDARD AIRWORTHINESS CERTIFICATE

1. NATIONALITY AND REGISTRATION MARKS N53757	2. MANUFACTURER AND MODEL Bellanca Aircraft Corp. BKCB	3. AIRCRAFT SERIAL NUMBER 235-76	4. CATEGORY Normal Acrob
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5. AUTHORITY AND BASIS FOR ISSUANCE
This airworthiness certificate is issued pursuant to the Federal Aviation Act of 1958 and certifies that, on date of issuance, the aircraft to which it applies has been inspected and found to conform to the type and, therefore, to be in condition for safe operation, and has been shown to meet the requirements of the applicable comprehensive and detailed airworthiness tests or provided by Annex 8 to the Convention on International Aviation, except as noted herein.
Exceptions:

None

6. TERMS AND CONDITIONS
Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator, this airworthiness certificate is effective as long as the maintenance, progressive maintenance, and alterations performed in accordance with Parts 25, 43, and 91 of the Federal Aviation Regulations, as applicable, on aircraft registered in the United States.

DATE OF ISSUANCE 1-27-76	FAA REPRESENTATIVE Donald R. [Signature]	REGISTRATION NUMBER LMR CL-1
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Any alteration, reproduction, or misuse of this certificate may be punishable by a fine not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION REGULATIONS.

FAA Form 8100-2 (7-67) FORMERLY FAA FORM 1302 SP-190-C-219-52

REGISTRATION NOT TRANSFERABLE

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION CERTIFICATE OF AIRCRAFT REGISTRATION		This certificate must be in the aircraft when operated.
NATIONALITY AND REGISTRATION MARKS N 53757	AIRCRAFT SERIAL NO. 235-76	
MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT BELLANCA BKCB		
ICAO Aircraft Address Code: 51546625		
I S S U E D T O	INTERNATIONAL AIR SERVICES INC TRUSTEE 791 S CARSON ST STE 200 CARSON CITY NV 89701-5239 <p style="text-align: center;">Corporation</p>	This certificate is issued for registration purposes only and is not a certificate of title. The Federal Aviation Administration does not determine rights of ownership as between private persons.
It is certified that the above described aircraft has been entered on the register of the Federal Aviation Administration, United States of America, in accordance with the Convention on International Civil Aviation dated December 7, 1944, and with Title 49, United States Code, and regulations issued thereunder.		
DATE OF ISSUE December 3, 2013 EXPIRATION DATE December 31, 2019		 U.S. Department of Transportation Federal Aviation Administration

AC Form 8010-3 (10/01/13) Supersedes previous editions

Appendix C

AVIATION DYNAMIX Physical Address: Hangar E13; Jack Taylor Airfield; Delperton; Krugersdorp Postal Address: P.O. Box 606 ; Strubensvalley; 1735 Telephone Number: +27-82 496 8690 Facsimile Number: +27-86 626 4552 E-mail Address: ivorinkel210@gmail.com	Number: 227/2018	
CERTIFICATE OF "RELEASE TO SERVICES"		
Nationality and Registration Marks: Ⓜ 53757		
Aircraft Type: Bellanca AKCAB Serial No.: 235-76		
I hereby certify that I am satisfied that the abovementioned Aircraft and all its equipment is determined to be in an airworthy condition for flight and all maintenance has been carried out in accordance with FAR Part 43, Appendix D and its Approved Maintenance Schedule.		
This certificate lapses at a total of 1012.3 Hrs of flight time or on 31 July 2019 , whichever occurs first, unless the aircraft is involved in an accident or becomes unserviceable, in which case the certificate is invalid for the duration of the period.		
Signed: License No.: IA 003257969 A&P		
Date: 05 July 2018		Time: 10H00Hrs