SOUTH AFRICAN CIVIL AVIATION AUTHORITY

Section/division **Accident and Incident Investigations Division** Form Number: CA 12-57

LIMITED ACCIDENT INVESTIGATION REPORT

Reference Number	CA18/3/2/10099										
Classification	Accident		**Date**	7 January 2022			**Time**	1600Z			
Type of Operation	Operation of Non-type (Part 94)										
Location											
Place of Departure	Dorchester Farm, Bray, North West Province		Place of Intended Landing	Dorchester Farm, Bray, North West Province							
Place of Occurrence	Klein Bray Farm										
GPS Co-ordinates	Latitude	25˚28'48.9" S	Longitude	23˚39'32.6" E	Elevation	6 480ft					
Aircraft Information											
Registration	ZU-DHA										
Model/Make	Raven (Serial Number: CBU-004)										
Damage to Aircraft	Substantial		Total Aircraft Hours	1 486.8							
Pilot-in-command											
Licence Type	Private Pilot Licence (PPL)		Gender	Male	Age	60					
Licence Valid	Yes										
Total Hours on Type	11.9		Total Flying Hours	4 271							
People On-board	1+1	Injuries	0	Fatalities	0	Other (on ground)	0				

What Happened

On Friday afternoon, 7 January 2022, a pilot and a passenger on-board a Raven aircraft with registration ZU-DHA took off from Dorchester Farm in Bray, North West province, with the intention to return to the same farm. This was a sightseeing flight conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended. Clear weather conditions prevailed at the time of flight.

The pilot stated that he completed the pre-flight inspection, and all was in order. No anomalies were experienced during engine start-up and take-off phases. However, whilst 10 minutes into the flight, the engine stopped in-flight. A restart was initiated, but this was unsuccessful. Meanwhile, the passenger decided to make a recording using the mobile phone after the in-flight engine stoppage. The pilot then scanned the area and identified a gravel road to perform a forced landing. During the forced landing, the left-side wing came into contact with the fence poles, resulting in the aircraft

ground looping. The aircraft was substantially damaged during the accident, however, both occupants on-board were not injured.

From the passenger's video footage, *the propeller blades are seen spooling down until they come to a stop; then the pilot switches on the fuel pump and selects the engine start on the master switch. The propeller turns momentarily and then stops (suggesting that the starter motor was just turning the engine). The pilot tries to restart several times without success. He then glides the aircraft, aiming for the gravel road. The aircraft touchdown on main wheels before ground looping.*

Figure 1: The aircraft at the accident site. (Source: Pilot)

Figure 2: A still picture of the video footage following engine failure. (Source: Pilot)

What was found:

- The pilot was issued a Private Pilot Licence on 22 July 2020 with an expiry date of 31 July 2021. The pilot was issued a Class 2 aviation medical certificate on 5 August 2021 with an expiry date of 31 August 2022, with no medical waiver. The pilot's licence had lapsed at the time of the accident; therefore, the aircraft was operated with an expired licence. The pilot contravened the CAR Part 61.03.7 read together with Part 61.03.5.
- The aircraft was issued an Authority to Fly (ATF) on 30 August 2021 with an expiry date of 30 August 2022.
- The change of ownership to the current owner was done on 13 August 2021, and the aircraft was duly registered on 18 August 2021.
- A post-inspection by the aircraft maintenance organisation (AMO) revealed that the fuel filter was clogged with a silicon-like substance. This resulted in fuel starvation to the engine during flight. The AMO cleaned the filter and performed an engine run with no issues detected.

Maintenance of competency for a PPL(A) 61.03.7

(1) The holder of a PPL(A) shall undergo a revalidation check within 12 months from the date of initial issue and thereafter within a period of 24 months calculated from—

(a) the date of reissue; or

(b) the beginning of the month following the date of—

(i) expiry of the maintenance of competency if such maintenance of competency is revalidated within 90 days immediately prior to expiry; or

(ii) revalidation of such maintenance of competency if revalidated prior to the period referred to in subparagraph (i).

(2) The holder of a PPL(A) who has not maintained competency by passing a revalidation check or an initial licence skills test in the same category of aircraft within the 24 months following the issue or revalidation of such licence shall comply with the following requirements—

(a) in the case of a holder of a PPL where the maintenance of competency has lapsed by not more than 36 months, the licence holder shall be required to—

(i) undergo sufficient ground and flight training at an approved ATO to reach the standard required for the revalidation check of a PPL(A), and meet the recency requirements to act as PIC; and

(ii) pass a revalidation check in the same category of aircraft;

Privileges and limitations of a PPL(A) 61.03.5

(1) The holder of a PPL(A) may not exercise the privileges of that licence unless he or she—

(a) is in possession of a valid medical certificate, issued to him or her in terms of Part 67;

(b) has submitted a copy of the medical certificate to the licensing authority, as required in regulation 61.01.6 (6) in the event that the aviation medical examiner is unable to submit electronic data to the Director; and

(c) complies with the Maintenance of Competency requirements.

(2) The holder of a valid PPL(A) may, in VMC, act as PIC or co-pilot in any aeroplane for which he or she holds the appropriate valid class rating or type rating.

(3) To provide for special VFR, the holder of a PPL(A) may fly in IMC, in sight of the surface and clear of cloud, fog or mist within a control zone, after being authorised to do so by the responsible air traffic services controller.

(4) If the holder of a PPL(A) has the appropriate valid rating, he or she may furthermore exercise the privileges of the licence for any of the special purposes referred to in regulation Part 61.03.8.

Figure 2: A clogged fuel filter. (Source: AMO)

Probable cause

Engine stopped in-flight as a result of fuel starvation caused by a clogged fuel filter; this was followed by an unsuccessful forced landing on the gravel road.

Safety Action/s

None.

Safety Message and/or Safety Recommendation/s

None.

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****.*

About this Report
Decisions regarding whether to investigate, 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, no investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar accident. *This report provides an opportunity to share safety message/s in the absence of an investigation.* *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.*
Disclaimer
This report is produced without prejudice to the rights of the AIID, which are reserved.

This report is issued by:

Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa