

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10200						
Classification	Accident	Date	6 August 2022			Time	0810Z
Type of Operation	Private Non-type Certificated Aircraft (Part 94)						
Location							
Place of Departure	Bethlehem Aerodrome (FABM), Free State Province		Place of Intended Landing		Bethlehem Aerodrome (FABM), Free State Province		
Place of Occurrence	On Preekstoel Road whilst on short final approach for Runway 11 at Bethlehem Aerodrome (FABM)						
GPS Co-ordinates	Latitude	28°14'52.15" S	Longitude	028°19'46.10" E	Elevation	5 517ft	
Aircraft Information							
Registration	ZU-BLJ						
Make; Model; S/N	Kopke GJ, GK-1 (Serial Number: GJK-002)						
Damage to Aircraft	Substantial			Total Aircraft Hours	119.5		
Pilot-in-command							
Licence Type	Commercial Pilot Licence		Gender	Male		Age	65
Licence Valid	Yes	Total Hours	6 499.9		Total Hours on Type	0.3	
Total Hours 90 Days	14.0		Total Flying Hours on Type Past 90 Days		0.3		
People On-board	1 + 0	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Saturday morning, 6 August 2022, a pilot on-board a GK1 None-type Certified Aircraft (NTCA) with registration ZU-BLJ was engaged on a private flight in Bethlehem, Free State province. The pilot was flying the aircraft type for the first time and had opted to perform circuit work at Bethlehem Aerodrome (FABM). He selected Runway 11 to perform the circuits. Visual meteorological conditions (VMC) by day prevailed at the time of flight with light and variable wind from the south-west (210°) at 2 knots. The flight was conducted under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot opted to fly the left-side circuits. Whilst on final approach for Runway 11, he decided to touch down on the threshold. His approach was low, and the main wheels of the aircraft struck a sports utility vehicle (SUV) that was in motion on Preekstoel Road from a north-westerly direction (heading in a south-easterly direction). Figure 5 shows the road and the threshold of Runway 11.</p> <p>The pilot managed to control the aircraft and landed on Runway 11; but due to the damage caused to the main landing gear, he lost directional control of the aircraft during the landing roll, and as a result, the aircraft veered off to the right-side of the runway.</p>							

The pilot was not injured during the accident sequence, whilst the aircraft sustained substantial damage. The driver of the vehicle was also not injured, but the vehicle was substantially damaged (see Figures 5, 6 and 7). The driver, a sole occupant in the vehicle, was severely traumatised by the experience.



Figure 1: The location of the accident indicated by the yellow pin. (Source: Google Earth)



Figure 2: The aircraft as it came to rest. (Source: Disaster Management)



Figure 3: Damage to the propeller. (Source: Disaster Management)



Figure 4: Landing gear penetrated the wings on both sides. (Source: Disaster Management)



Figure 5: A view of the damaged vehicle from the front. (Source: Disaster Management)



Figure 6: A closer view of the damage to the vehicle. (Source: Disaster Management)



Figure 7: Impact markings from the aircraft on the vehicle. (Source: Disaster Management)

The Pilot

The pilot was issued a Commercial Pilot Licence (CPL) by the Regulator (SACAA) with an expiry date of 31 August 2022. At the time of the accident, the pilot had flown a total of 6 499.9 hours of which 0.3 hours were on the aircraft type. He had flown 14.0 hours during the past 90 days, including the 0.3 hours which were on the aircraft type. The pilot had a valid Class 1 aviation medical certificate which was issued on 28 March 2022 with an expiry date of 28 September 2022.

Two limitations were entered on his aviation medical certificate:

- (i) VML – Correction for defective distance, intermediate and near vision; and
- (ii) VNL – Correction for defective near vision.

The Aircraft

The aircraft, a GK-1 with serial number GJK-002 was manufactured in 2009. The last annual inspection prior to the accident flight was certified on 2 April 2022 at 119.2 airframe hours. A further 0.3 hours were flown with the aircraft since the annual inspection. The Authority to Fly (ATF) was issued on 13 July 2022 with an expiry date of 31 July 2023. A Certificate of Registration was issued to the current owner on 8 July 2009. A Certificate of Release to Service (CRS) was issued on 2 April 2022 with an expiry date of 1 April 2023.

Weather Information

Presented in the table below is the meteorological aerodrome report (METAR) data for Bethlehem Aerodrome (FABM) at 0800Z on 6 August 2022. FABM 060800Z 21002KT CAVOK 15/05 Q1028

Wind Direction	210°	Wind Speed	2 knots	Visibility	> 10km
Temperature	15°C	Cloud Cover	Nil	Cloud Base	Nil
Dew Point	5°C	QNH	1028 hPa		

Bethlehem Aerodrome (FABM)

FABM is a licensed aerodrome with two runways. The asphalt runway is orientated 11/29 and is 1 175 metres (m) long and 15m wide, whilst the grass runway is orientated 13/31 and is 1 311m long and 46m wide. The aerodrome elevation is 5 561 feet (ft). The pilot was using Runway 11. According to available information, this was the first time an aircraft on approach to land at FABM collided with a vehicle whilst in motion on Preekstoel Road.

Extract from the Civil Aviation Regulations (CAR) 2011

Endangering safety

Part 91.01.10

(1) No person shall, through any act or omission—

(b) cause or permit an aircraft to endanger the safety of any person or property.

Findings
<ul style="list-style-type: none"> (i) The pilot was issued a Commercial Pilot Licence (CPL) with an expiry date of 31 August 2022. (ii) The pilot had flown a total of 6 499.9 hours of which 0.3 hours were on the aircraft type. (iii) This flight was conducted under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended. (iv) This was the first time the pilot flew this aircraft type. (v) The last annual inspection that was carried out on the aircraft prior to the accident flight was certified on 2 April 2022 at 119.2 airframe hours. A further 0.3 hours were flown since the annual inspection. (vi) The aircraft was issued an ATF on 13 July 2022 with an expiry date of 31 July 2023. (vii) Fine weather conditions prevailed at the time of the flight with a light (2 knots) south-westerly wind. (viii) The aircraft sustained substantial damage during the accident sequence. (ix) The vehicle was substantially damaged after the collision with the aircraft. (x) No person was injured during the accident sequence. (xi) The pilot did not adhere to the provisions of Part 91.01.10 of the CAR 2011 as amended.
Probable Cause
The aircraft was very low on approach for Runway 11, causing the main landing gear to strike a vehicle whilst in motion on Preekstoel Road, west of the aerodrome's perimeter fence.
Contributing Factor
None.
Safety Action
None.
Safety Message and/or Safety Recommendation/s
It is recommended that the Municipality of Dihlabeng consider installing a road sign (as per Figure 8) on both sides of Preekstoel Road to warn motorists of low flying aircraft.



Figure 8: Example of a road marking, warning motorist of low flying aircraft.

About this Report

The decision to conduct a limited investigation is based on factors including whether the cause is known and the evidence supporting the cause is clear, the level of safety benefit likely to be obtained from an investigation and that will determine the scope of an investigation. For this occurrence, a limited 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 limited report. The report has been compiled using information supplied in the initial notification, as well as from follow-up desk top enquiries 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 occurrence.

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

In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011 and ICAO Annex 13, 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.

Disclaimer

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**This report is issued by:
 Accident and Incident Investigations Division
 South African Civil Aviation Authority
 Republic of South Africa**