Accident and Incident Investigations Division

Accident
- Preliminary Report -
AIID Ref No: CA18/2/3/10111

Figure 1: File picture of the glider. (Source: Airplane pictures)

Description:

On Tuesday, 1 February 2022 at 1224Z, a DG 808B self-launching glider with a pilot on-board took off on a private flight from Worcester Aerodrome (FAWC) with the intention to fly along the Langeberg Mountain before returning to FAWC. After take-off, the glider climbed to 3 400 feet (ft) and set heading towards the east with the wind blowing in a south-westerly direction at 5 knots. According to the flight logger data, the glider made a 360° turn to the right, followed by another 270° turn and, thereafter, the recording stopped. The glider was found to have impacted the side of the Langeberg Mountain; the pilot was fatally injured in the accident.

DESCRIPTION OF THE ACCIDENT

Reference Number	**:** CA18/2/3/10111
Name of Owner	**:** DG 808B Partnership
Name of Operator	**:** Private (Part 94)
Manufacturer	**:** DG Flugzeugbau G.m.b.H.
Model	**:** DG 808B
Nationality	**:** South African
Registration Marks	**:** ZU-KDP
Place	**:** Langeberg Mountain, Suurbraak area, Western Cape
Date	**:** 1 February 2022
Time	**:** 1350Z

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****.*

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.

Investigation Process:

The accident was notified to the Accident and Incident Investigations Division (AIID) on 2 February 2022 at about 1100Z. The investigator dispatched to Suurbraak on 3 February 2022 to conduct an on-site (full scope) investigation. The investigator co-ordinated with all authorities on site by initiating the accident investigation process according to CAR Part 12 and investigation procedures. The AIID is leading the investigation as the Republic of South Africa is the State of Occurrence. The state of manufacture (Germany) and the Federal Bureau of Aircraft Accident Investigation (BFU) were notified of the accident; an accredited representative was not assigned to the investigation.

Notes:
1. Whenever the following words are mentioned in this report, they shall mean the following:

- *Accident — this investigated accident*
- *Aircraft — the DG 808B 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 were taken from different sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows or lines.

Disclaimer:

TABLE OF CONTENTS

ABBREVIATION	DESCRIPTION
AIID	Accident and Incident Investigations Division
AGL	Above Ground Level
AIID	Accident and Incident Investigations Division
AMSL	Above Mean Sea Level
ARCC	Aeronautical Rescue Coordination Centre
ARO	Aviation Recreation Organisation
CAR	Civil Aviation Regulations
CAVOK	Cloud and Visibility OK
CRS	Certificate of Release to Service
CVR	Cockpit Voice Recorder
FAGG	George Aerodrome
FAI	Fédération Aeronautique Internationale
FAWC	Worcester Airfield
FDR	Flight Data Recorder
FLARM	Flight Alarm
Ft	Feet
GPS	Global Positioning System
IGC	International Gliding Commission
JOC	Joint Operation Centre
KT	Knot
M	Metre
MSAR	Mountain Search and Rescue
OLZ	Optimum Lift Zones
QNH	Query Nautical Height
SAPS	South African Police Service
SPL	Sail Plane Licence
SSSA	Soaring Society of South Africa
TBA	To Be Advised
TMG	Touring Motor Glider
TSN	Time Since New
UTC	Co-ordinated Universal Time
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
Z	Zulu (Term for Universal Coordinated Time - Zero hours Greenwich)

1. FACTUAL INFORMATION

1.1. History of Flight

1.1.1 On Tuesday, 1 February 2022 at 1224Z, a pilot flying solo on-board a DG 808B self-launching motor glider took off from Worcester Aerodrome (FAWC), Western Cape province, with the intention to fly along the Langeberg Mountain before returning to FAWC. This was a private flight conducted under visual meteorological conditions (VMC) by day and in accordance with Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.

1.1.2 According to the owner of the glider, the pilot approached him and requested to make use of his glider for recreational flying. The owner stated that there was no written agreement in place as he knew the pilot and had allowed him to use his glider in the past. He further stated that on the day of the accident, the pilot had planned to fly for approximately five hours. The motor glider took off at approximately 1224Z from Runway 12. When the pilot did not return to FAWC as planned, an alert to the authorities was initiated the next day (2 February 2022) by a pilot at the Cape Gliding Club.

1.1.3 The Aeronautical Rescue Coordination Centre (ARCC) based at O.R. Tambo International Aerodrome (FAOR) was notified of a missing glider with registration ZU-KDP by the Cape Gliding Club on 2 February 2022 at 0840 local time (LT). An official search and rescue operation was initiated and a joint operation centre (JOC) was established in Worcester at 1030 LT, which was coordinated by the ARCC. The JOC consisted of members from the South African Police Service (SAPS), Mountain Search and Rescue (MSAR), the South African Air Force (SAAF) DC3 and Mayday South Africa, among others. The first unit was placed on standby at 0900 LT. The South African Air Force (SAAF) DC3 was tasked with this unit, however, there was a delayed deployment due to reported icing along the Langeberg Mountain range. The SAAF DC3 search was cancelled due to the inclement weather conditions. The SAPS Air Wing was also placed on standby at 0923 LT at Cape Town International Aerodrome (FACT). Weather was Instrument Meteorological Conditions (IMC) at FACT. According to available information, the glider was fitted with a flight alarm (FLARM) device that emits a signal of the last known position. The signal could be picked up by other gliders (as a collision avoidance measure) and/or by a ground station. The glider's last known position recorded by the device was at Robertson Airfield at Global Position System (GPS) coordinates determined to be 34˚00'36" South 020˚42'28" East, about 45 nautical miles (nm) (83km) south-east of the accident site. The MSAR was able to gain access to the pilot's laptop; they then made contact with a family member to acquire

his mobile phone number. Thereafter, a trace of the last position of the mobile phone was requested from the service provider and the search was narrowed to a new GPS position, which was 33˚57'00.9" South 020˚46'54.0" East; this position established that the mobile phone was in an approximate 100-metre (m) radius from the wreckage site. A SAPS Air Wing helicopter from Cape Town that was placed on standby at 0923 LT, was called in at 1202 LT to assist with the search; the helicopter had to make refuelling stops during the search as the area (to be searched) was exceptionally large. The SAPS Air Wing helicopter located the wreckage on the side of the mountain at 1305 LT. The JOC dispatched another helicopter from Oudtshoorn to extricate the pilot from the wreckage; the pilot was declared deceased at the scene by a paramedic.

1.1.4 A glider pilot from the Cape Gliding Club who was flying in another glider along the same ridge line as the accident pilot on the same day stated that there was a south-easterly wind blowing, and he struggled to get to 4000 feet (ft) above mean sea level (AMSL). He stated that when he reached that height, the wind turned to a reversal and he got curled over. He reported that he was flying along the ridge when he encountered the wind reversal; thus, he kept the airspeed above 140 kilometres per hour (km/h). The glider pilot further stated that a sudden change in wind conditions was a known occurrence around that area, and that when one finds oneself in that situation, height would not help but the airspeed would.

1.1.5 The wreckage site was on the windward side of the mountain, and the glider was substantially damaged. The glider was equipped with the Naviter Oudie IGC Nav-8PO detachable unit that was mounted on the windshield, as well as a factory-fitted Cambridge Aero Instrument. Both units were used to track and record flight data and parameters of flights undertaken. Both units were recovered from the wreckage and were subjected to downloading. The Oudie IGC Nav-8PO was badly damaged, and any attempts to retrieve data were unsuccessful. However, the Cambridge Aero Instrument was successfully downloaded at an approved aircraft maintenance organisation (AMO) facility in Potchefstroom, North West province.

1.1.6 The accident occurred on the windward side of Langeberg Mountain near Barrydale, Western Cape, during day light at GPS coordinates determined to be 33˚57'00.9" South 020˚46'54.0" East, at an elevation of 4 389ft.

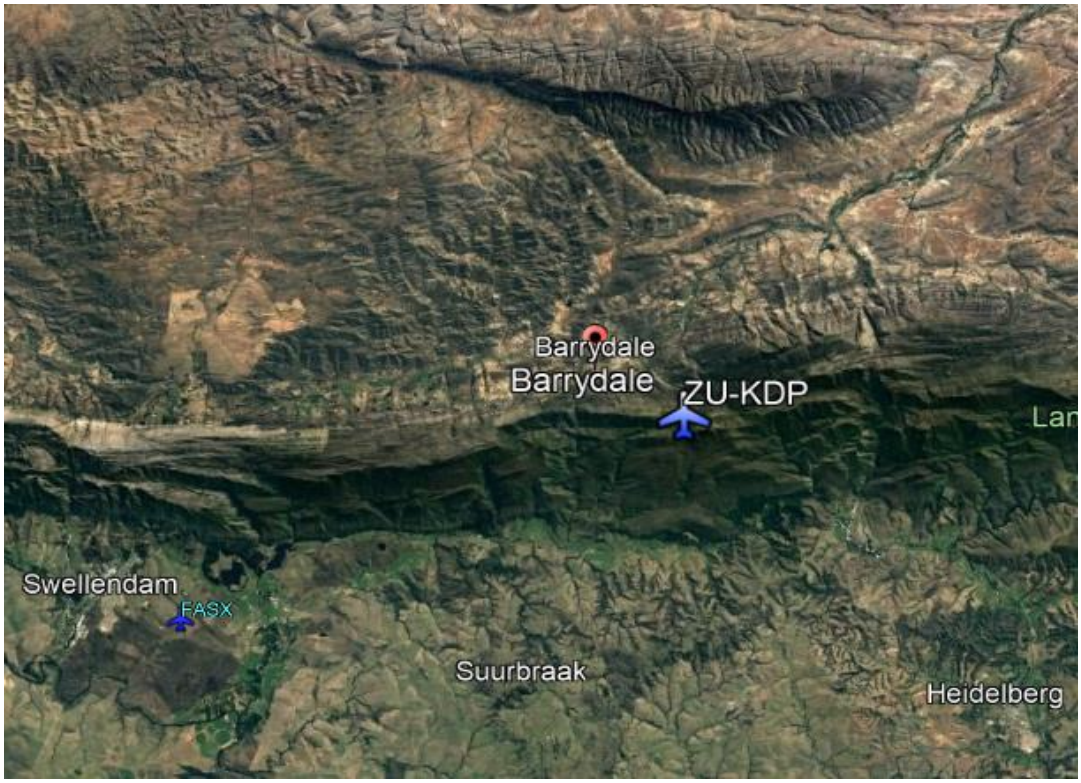

Figure 2: Overlay of the accident site. (Source: Google Earth)

1.2. Injuries to Persons

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

Note: Other means people on ground.

1.3. Damage to Aircraft

1.3.1 The glider was substantially damaged during the accident sequence.

Figure 3: Damage to the glider.

1.4. Other Damage

1.4.1 None.

1.5. Personnel Information

1.5.1 Pilot-in-command (PIC)

Nationality	German	Gender	Male	Age	58
Licence Number	DE.FCL12509	Licence Type	Sail Plane Licence (SPL)		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Sail plane PIC, Touring Motor Glider (TMG), Winch and Aero Tow				
Medical Expiry Date	8 May 2022				
Restrictions	Corrective lenses				
Previous Accidents	TBA				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	1184.53
Total Past 24 Hours	1.5
Total Past 7 Days	1.5
Total Past 90 Days	3.43
Total on Type Past 90 Days	TBA
Total on Type	TBA

1.5.2 A letter dated 22 February 2022 that was submitted with validation documents by the accident pilot had stated that he intended to arrive in Cape Town on 30 January 2022 and depart on 13 February 2022. The pilot had planned to acquire a temporary membership at the Cape Gliding Club; he had also planned to use a South African registered glider (type DG808) as well as other gliders (aircraft) owned by members of the Cape Gliding Club whilst in the Cape.

1.5.3 The pilot had a German Sail Plane Licence and a South African Glider Pilot Licence issued on 22 April 2014. The pilot was issued a 28-day validation certificate, valid from 1 February 2022 with an expiry date of 28 February 2022. The pilot's medical certificate, which was a Class 2, was issued on 6 May 2021 with an expiry date of 8 May 2022; the certificate had a medical waiver stating that the pilot should wear corrective lenses.

1.6. Aircraft Information

1.6.1 The DG 808B is a single seat motorised glider. It has a self-launching retractable propeller motor with sufficient thrust and initial climb rate to take-off without assistance, or it could be launched as with a conventional glider. The engine has a starter motor and a battery to allow the engine to be started on the ground, and an alternator to recharge the battery. A two-blade propeller is typically coupled to the engine via a belt reduction drive. The propeller alignment must be checked by the pilot using a mirror, before it is retracted into the fuselage; however, in current production gliders, propeller alignment is fully automatic. The single-blade propeller offers the advantage of an opening in the fuselage that can be retracted.

Airframe:

Manufacturer/Model	DG Flugzeugbau G.m.b.H	
Serial Number	8-249B162	
Year of Manufacture	2001	
Total Airframe Hours (At Time of Accident)	2 701.30	
Last Annual Inspection (Hours & Date)	2 673.47	8 August 2021
Hours Since Last Annual Inspection	27.43	
ATF (Issue Date)	31 October 2019	
ATF Expiry Date	31 October 2022	
C of R (Issue Date) (Present Owner)	21 November 2016	
Type of Fuel Used in the Aircraft	95 octane unleaded fuel	
Operating Categories	Part 94	
Previous Accidents	TBA	

Note: Previous accidents refer to past accidents the aircraft was involved in, when relevant to this accident.

Engine:

Manufacturer/Model	Solo 250
Serial Number	2625 01
Hours Since New	58:39
Hours Since Overhaul	TBO not reached

Propeller:

Manufacturer/Model	DG 808B
Serial Number	275
Hours Since New	58:39
Hours Since Overhaul	TBO not reached

1.6.2 According to the glider logbook, the last annual inspection prior to the accident flight was carried out by an approved person (AP) on 8 August 2021 at 2673.41 hours. A Certificate of Release to Service (CRS) was issued on 8 August 2021 with an expiry date of 8 August 2022 or at 2973.41 hours, whichever comes first. The glider had not been used for 16 months prior to the accident flight.

1.7. Meteorological Information

1.7.1 The following weather information (received by the investigator on 12 February 2022) was sourced from the South African Weather Service (SAWS) for 1 February 2022 at 1350Z. The report depicts weather from the closest weather station, which is Worcester Airfield (FAWC), located 151 kilometres (km) from the accident site. This weather report did not apply to the actual weather conditions at the accident site on 1 February 2022 as FAWC was further away, however, it gives an indication of the likely weather conditions around the time of the accident. There is no weather station at Suurbraak Airfield, which is the closet airfield to the accident site.

Wind Direction	280˚	Wind Speed	5 kts	Visibility	9999m
Temperature	37.6˚C	Cloud Cover	unknown	Cloud Base	unknown
Dew Point	16.4˚C	QNH	1004hPa		

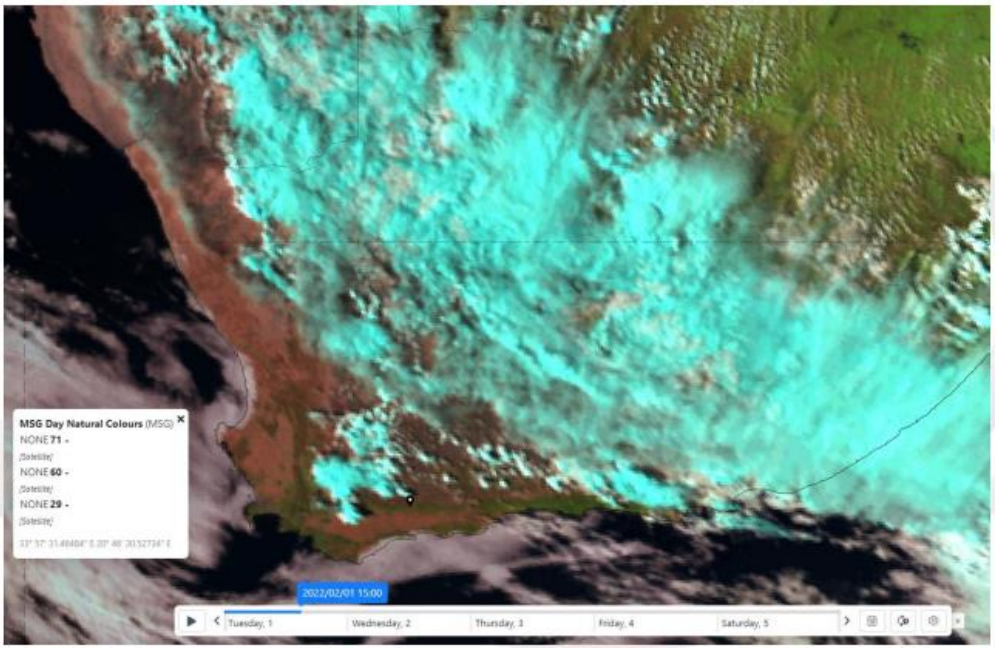

Figure 4: Day Natural Colours satellite imagery at 1500Z for 1 February 2022. (Source: SAWS)

Satellite image

The Day Natural Colours satellite imagery of the MeteoSat Second Generation (MSG) taken at 15:00Z on 01 February 2022 indicate that there were no significant clouds (clear skies) over the area of accident, however; there were scattered (3 to 4 oktas) cumulus, scattered towering cumulus and few cumulonimbus clouds in the vicinity of the area of accident. Figure 4

Warnings Issued

There were no warnings issued for the area at the time of accident. As a result, apart from the scattered cumulus, scattered towering cumulus and few cumulonimbus clouds observed in the vicinity of the area of accident and closer to the time of the accident, there was no other significant weather and clouds that were observed or reported in the area where and closer to when the accident occurred. In addition, the Significant Weather (SigWx) low and high-level charts valid for 1500Z showed that broken stratocumulus, broken cumulus, isolated embedded cumulonimbus (with moderate to severe turbulence, thunder, icing and hail being implied) and broken altocumulus clouds were expected in the vicinity of the area of accident and closer to the time of the accident, as well as visibility forecasted to be reduced to 4000 m in thundershowers.

The METAR for Cape Town Airport is indicating that the wind direction was north-westerly with fresh average surface wind speed of 19KT. The big difference between current temperate and dew point temperature indicates dry conditions at the lower levels of the atmosphere, which coincides with clear conditions seen on satellite imagery. Few (1 to 2 oktas) towering cumulus clouds at a cloud base of 4000 ft were

reported in the vicinity of the airport. There was no significant change in weather that was expected in the weather station in the next 2 hours from the time of the report.

1.8. Aids to Navigation

1.8.1. The glider was equipped with the standard factory-fitted navigational equipment approved by the Regulator (SACAA). No defects to this equipment were recorded prior to the flight.

1.9. Communication

1.9.1 The aircraft was equipped with a very high frequency (VHF) radio as approved by the Regulator. No defects to this equipment were recorded before the flight.

1.10. Aerodrome Information

1.10.1 The accident did not happen at or near the aerodrome.

1.11. Flight Recorders

1.11.1 The glider was not equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted on this type of aircraft.

1.11.2 As part of a design feature of the instrument layout, the glider was equipped with Naviter Oudie IGC Nav-8PO instrument Serial Number: 201500900246 and a Cambridge instrument SN: 3EO 4416. An International Gliding Commission (IGC) secure flight recorder used for verification of soaring achievements for competitions and record claims was included in both these instruments. Both instruments were retrieved from the accident site to be downloaded. The overall condition of the Oudie was that it was severely damaged; any attempts to retrieve data were unsuccessful. However, a log with a file name C3EO1.igc of the accident flight was recovered from the Cambridge instrument, which had a logger interval every 2 seconds.

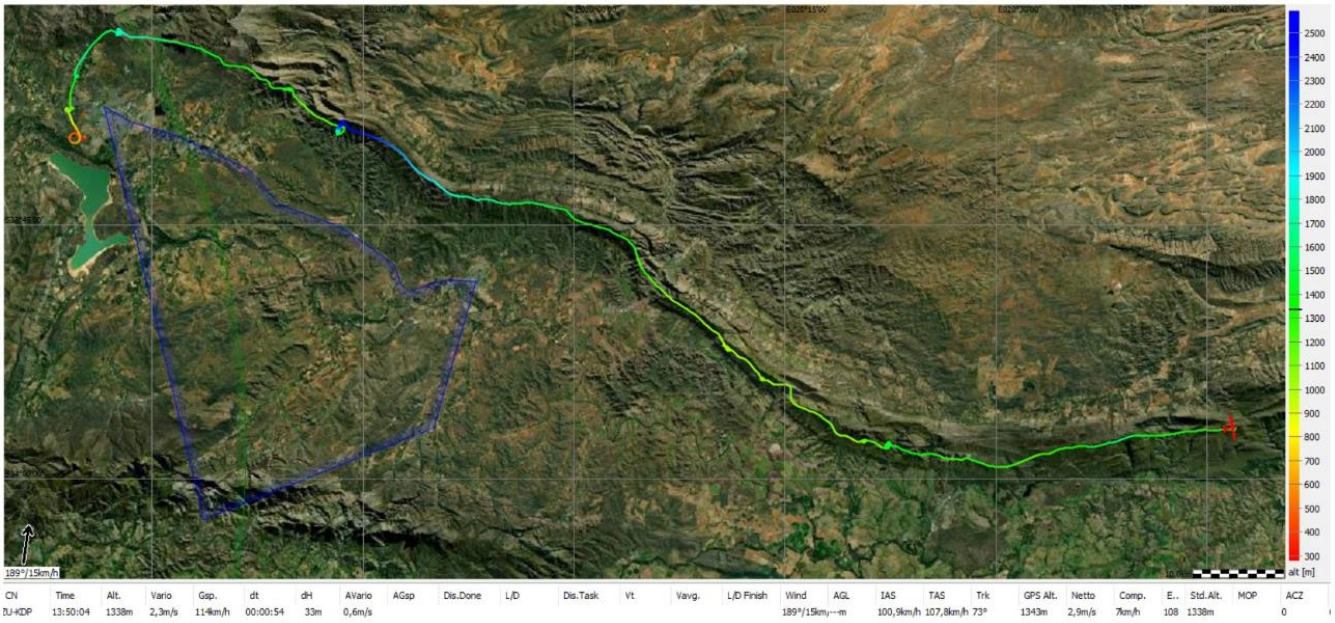

Figure 5: Flight log file data depicting the flight path and wind direction. (Source: Cambridge system)

A sequence of events leading up to the accident:

No.	Manoeuvre	Rate of Climb(m/s)	Turn towards or away from the mountain	Minimum indicated speed during the manoeuvre (Km/hr)
1	Thermal	1,4	Away	73
2	Figure of 8	-	Away	102
3	Thermal	3,3	Towards	90
4	Figure of 8	-	Away	92
5	Thermal	-0,8	Towards	84
6	Thermal	1,3	Away	86
7	Thermal	1,6	Towards	81
Final	Thermal	0,6	Away	85

Table 1: Sequence of events leading to the accident. (Source: Axella AMO)

1.11.3 According to the flight path (Figure 5), the glider is seen taking off from FAWC Runway 12, it then commences with a spiral climb to the left before setting north bound heading towards the mountain ridge. The glider then makes a right turn along the windward side of the mountain ridge in the south-easterly direction (see Figure 6). The recorded wind direction is from the south (see the arrow at the bottom left corner indicating that the glider was in windward side). The flight path appears to be uniform throughout with spiralling ascends (see Figure 5). The glider flies along the ridge until the end of the recording (see Figure 6). The height that the glider was flying at was 4 429ft AMSL. The elevation of the accident site was 4 389ft. The total distance covered from take-off to the accident site was 151km.

Figure 6: Overlay depicts moments before the crash. (Source: Cambridge system/Google Earth)

1.11.4 The green line in Figure 6 depicts the final moments before the crash. The pilot was flying straight and level along the windward side of the ridge which suggested normal operation; this does not show any evidence of unusual behaviour or loss of control by the pilot. The pilot then initiated a right turn which was a full 360° (i.e. away from the mountain and then back towards the mountain) followed by a second turn (which was 270°). The glider impacted the side of the mountain during the second turn, which correlates with the direction in which he struck the ground.

1.12 Wreckage and Impact Information

1.12.1 The motorised glider was flying in an easterly direction along the Langeberg Mountain catchment, thereafter, commenced a spiralling turn to the right before impacting the mountain on the windward side. The glider was found lying upright and facing a south-easterly direction. The ground scar was located 2 metres from the nose of the glider, it was approximately 300mm in depth and fitted the profile of the nose tip section, which was evidenced by dirt marks. The retractable mainwheel was still in its bay, which suggested that the motor glider was in a flying configuration at the time of impact.

Figure 7: Aerial footage of the accident site.

1.12.2 The motor glider wings were fairly intact, the damage observed on the right-side wing was the separation of the winglet as a result of impact, found lying 8m from the wing's outboard. The right-side inboard upper surface skin exhibited signs of buckling and deformation as a result of impact damage. The left-side winglet tip had fractured in the root but was still attached to the wing. The left-side airbrake was slightly deployed. The left-side flaps were damaged in the middle attachment points, whereas the right-side appeared to be damaged near the inboard of the wing. Both ailerons were still attached and no apparent damage was observed. Continuation of the ailerons was not achieved due to the control stick that was jammed as a result of impact. However, all control surfaces were accounted for.

Figure 8: Buckling and deformation of the skin surface.

Figure 9: Detached right-side winglet.

1.12.3 The cabin section exhibited structural fracture in four places on the right-side. The canopy had separated and pieces of the frame and Perspex were found scattered at the front of the nose section. The tip of the nose was damaged; dirt and grass was visible around the tip, indicative of a high angle contact with the ground. The rudder pedals appeared to be damaged.

Figure 10: The damaged cabin section. The inset shows an indentation on the ground caused by the nose during impact.

Figure 11: The nose section post-accident.

1.12.4 The empennage was heavily damaged. It was fractured and had separated in three different places; broken sections were kept in place by control cables. The vertical stabiliser had broken off from where it attaches on the tail. The elevator appeared to

have not been damaged. A piece of composite was missing from the top of the rudder pedal as a result of impact. The tail wheel broke off and was kept in place by the control cables. The top part of the empennage that houses the engine had split open, exposing the engine. The engine and propeller appeared to be in a stored position (deployed from the empennage); however, one of the propeller blades was damaged on the tip. The damage on the blade could be attributed to impact during the accident sequence. No evidence was found in the cabin of an attempt to (re)start the engine prior to impact. Engine control and switches as found at the scene were in the off position.

Figure 12: Damage sustained by the empennage.

Figure 13: Propeller blades as found at the accident site.

1.13 Medical and Pathological Information

1.13.1 To be included in the final report.

1.14 Fire

1.14.1 There was no pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The accident was not survivable; the cabin structure sustained high impact damage. Although the pilot made use of the glider fitted safety harness, the deceleration force and impact resulted in fatal injuries.

1.15.2 The glider was not fitted with an emergency locator transmitter (ELT). ARCC was notified of the missing glider on 2 February 2022 (a day after the glider went missing) which minimised any chance of the pilot surviving the crash.

1.16 Tests and Research

1.16.1 To be included in the final report.

1.17 Organisational and Management Information

1.17.1 At the time of accident, the motor glider was being operated privately by the pilot for recreational purposes. The owner of the glider gave permission to the pilot to fly the glider.

1.17.2 The pilot was a member of the Cape Gliding Club at Worcester. *Foreign pilots are required to submit documentation supporting foreign glider pilot licences, which are submitted to the Regulator for validation; upon verification, a 28-day validation certificate is issued*. The pilot was issued a 28-day validation certificate valid from 1 February 2022.

1.17.3 Visitors are required/allowed to be temporary members (valid for three months) of the Soaring Society of South Africa (SSSA) and the Cape Gliding Club. The SSSA is the relevant Aviation Recreation Organisation (ARO) in terms of Part 94 of the Civil Aviation Regulations 2011, which is legally allowed to oversee all gliding activities in South Africa.

1.17.4 The Aero Club South Africa is affiliated to the Fédération Aeronautique Internationale (FAI), the recognised international controlling body for Sport Aviation.

1.17.5 The last annual inspection prior to the accident flight was carried out on 8 August 2021 at 2673.47 flying hours and a Certificate of Release to Service was issued on 8 August 2021 with an expiry date of 8 August 2022 or at 2973 hours, whichever comes first.

1.17.6 The motor glider was registered to the current owner on 17 October 2019.

1.18 Additional Information

1.18.1 ***Ridge/Slope Soaring***

Efficient slope soaring (also called ridge soaring or ridge running) is fairly easy; simply fly in the updraft along the upwind side of the ridge. Although the appearance may seem simple, it is very complicated and can be very hazardous for the untrained glider pilot. Ridge soaring can also be very demanding on the glider and the pilot. Even though it is easy to fly, there are many situations in which a glider pilot can be exposed to hazards if proper training has not been received. A thorough preflight and route planning needs to be accomplished. This planning also includes ridge selection based on the current winds. The horizontal distance from the ridge varies with height above the ridge, since the best lift zone, or optimum lift zones (OLZ) tilts upwind with height above the ridge. These zones, or OLZ, vary but usually are slightly off the top of the

ridge, with a slight angle into the prevailing wind. The bottom of the OLZ may be slightly down from the top line under normal conditions. These OLZ vary with the size and terrain makeup of the ridge.

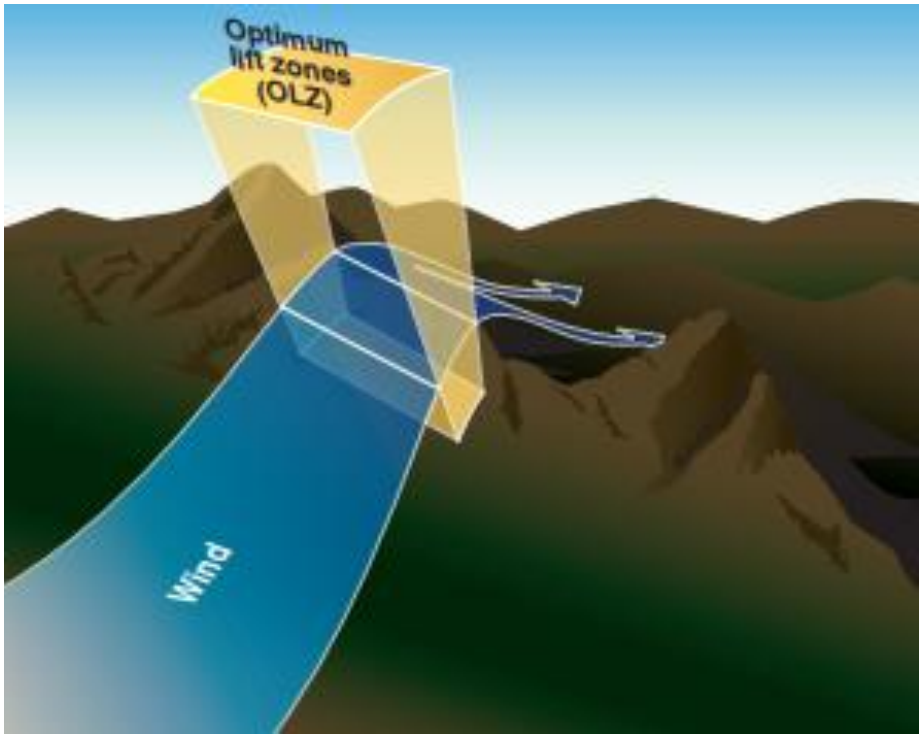

Figure 14: Optimum lift zone of a ridge.

Surface winds of 15–20 knots that are perpendicular to the ridge are ideal. Wind flow within 45° of the perpendicular line also provides adequate lift. Winds less than 10 knots have also produced adequate ridge soaring dependent on the terrain, but with 10 knots of wind or less, pilots should avoid flying low over any ridge due to the possibility of encountering sink. Local ridge pilots know about of these conditions and the need for good preflight planning and training is required. [Figure 15] • Airflow mirrors a hill or ridge shape. Imagine a flow of water around the ridge instead of air. However, air is thinner and can be compressed as in a "venturi effect" and can be "squeezed" and accelerated, especially along the ridge. • Ridges that have an irregular profile are hazardous. The more complicated the ridge is, the more erratic the airflow may become.

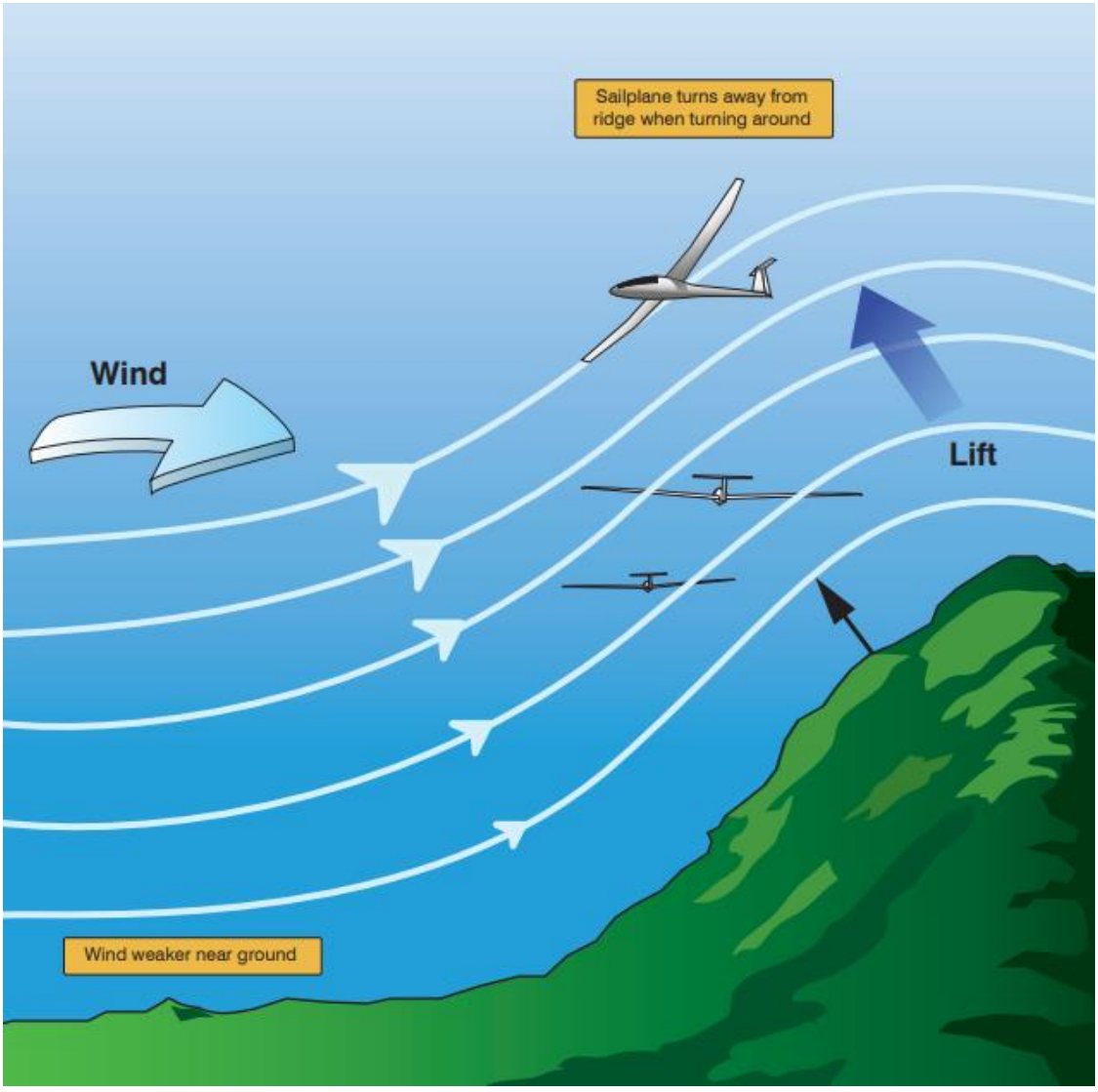

Figure 15: Ridge wind flow.

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. Findings

2.1 General

From the available evidence, the following preliminary findings 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.

2.2 Findings

2.2.1 The pilot had a German Sail Plane Licence issued on 22 April 2014. The pilot had a Class 2 aviation medical certificate issued on 6 May 2021 and due to expire on 8 May 2022, with corrective lenses medical waiver.

2.2.2 The pilot was issued a 28-day validation certificate by the SACAA on 27 January 2022, which was valid from 1 February 2022 with an expiry date of 28 February 2022.

2.2.3 The last annual inspection prior to the accident flight was carried out by an Approved Person on 8 August 2021 at 2673.41 hours; a Certificate of Release to Service was issued on 8 August 2021 with an expiry date of 8 August 2022 or at 2973 hours; whichever comes first. The glider flew a further 27.43 hours since the last annual inspection.

2.2.4 The glider was issued an Authority to Fly on 17 October 2019 with an expiry date of 31 October 2022.

2.2.5 The Certificate of Registration for the present owner was issued on 17 October 2019.

2.2.6 After take-off, the glider climbed to 3 400ft and set heading towards the east with the wind blowing in a south-westerly direction at 5 knots. According to the flight logger data, the glider made a 360° turn to the right, followed by another 270° turn and, thereafter, the recording stopped. The glider was found to have impacted the side of the Langeberg Mountain. There was no evidence of loss of control prior to impact.

2.2.7 The wind direction on the flight logger indicated a southerly wind direction which put the glider in an upwind position on the windward side. The official weather report around the time of the accident from SAWS indicated that there were (likely) scattered (3 to 4 oktas) cumulus, scattered towering cumulus and few cumulonimbus clouds in the vicinity around the area of the accident.

2.2.8 Installed on the glider were the Naviter Oudie IGC Nav-8PO instrument Serial Number: 201500900246, and a Cambridge instrument SN: 3EO 4416. The Naviter Oudie was severely damaged and any attempts to retrieve data were unsuccessful. However, a log with a file name C3EO1.igc of the accident flight was recovered from the Cambridge instrument, which had logger interval every 2 seconds.

2.2.9 When the glider did not return to FAWC as expected in the afternoon, the Cape Gliding Club contacted the ARCC; however, this was only done the following morning. An official search was activated, and the wreckage was located on 2 February 2022 at 1305 LT by the SAPS helicopter crew.

2.2.10 The position of the switches and controls revealed that there was no attempt made by the pilot to (re)start the engine.

2.2.11 The pilot was still secured by the safety harness on impact, with no evidence that he intended to make use of his parachute. The parachute was still secured behind his back.

2.2.12 The glider was not fitted with an emergency locator transmitter (ELT). The ARCC was notified of the missing glider on 2 February 2022 (the following morning), which minimised any chance of locating the glider and the pilot's chances of surviving the crash.

3. On-going Investigation

3.1 The AIID investigation is on-going and the investigator will be looking into other aspects of this occurrence which may or may not have safety implications.

4 Safety Recommendation

4.1 The glider was not fitted with an emergency locator transmitter (ELT). The ARCC was notified of the missing glider on 2 February 2022 (the following morning), which minimised any chance of locating the glider and the pilot's chances of surviving the crash.

In the interest of safety and to preserve life, it is recommended that the DCA investigates the possibility of fitting all manned aircraft with ELT devices irrespective of aircraft being non-type certified aircraft (NTCA) or type-certified (TC) aircraft.

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