



REPUBLIC OF NAMIBIA

MINISTRY OF WORKS AND TRANSPORT

Directorate of Aircraft Accident and Incident Investigations

Accident Reference: ACCID/121720/01-5

Aircraft Accident Investigation Final Report

V5-ULT. EROS AIRPORT, WINDHOEK

Aircraft Accident Report

Gyrocopter Collision with Terrain
Private Flight
Calidus. Auto- Gyrocopter,
V5-ULT. Eros airport, Windhoek
17th December, 2020

Foreword

This report presents the factual information, data analysis, conclusions, and safety recommendations reached during the investigation. The purpose of the investigation was to establish the circumstances surrounding this accident.

In accordance with the provisions of Annex 13 to the Convention on International Civil Aviation Organization, the accident's analysis, conclusions, and safety recommendations contained therein are intended neither to apportion blame nor to single out any individual or group of individuals. The main objective was to identify the systematic deficiencies and draw lessons, from the occurrence, which might help to prevent accidents and incidents in the future. To this end, many a time, the reader may be interested in whether or not an issue was a direct cause of the accident (that has already taken place), whereas the investigator is mainly concerned with the prevention of future accidents/incidents.

As a result, the usage of this report for any purpose other than (the latter and spirit of Annex 13 and other relevant statutes) prevention of similar occurrences in the future might lead to erroneous interpretations and applications.

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TABLE OF CONTENTS	PAGE
a) FORWARD	<i>i</i>
b) TABLE OF CONTENT	<i>ii</i>
c) ABBREVIATIONS	<i>iii</i>
1. EXECUTIVE SUMMARY.....	1
1. FACTUAL INFORMATION.....	2
1.1. HISTORY OF THE FLIGHT.....	2
1.2 INJURIES TO PERSONS.....	2
1.3 DAMAGE TO AIRCRAFT.....	3
1.4 OTHER DAMAGE	3
1.5 PERSONNEL INFORMATION	3
1.6 AIRCRAFT INFORMATION	4
1.7 METEOROLOGICAL INFORMATION.....	4
1.8 AIDS TO NAVIGATION	4
1.9 COMMUNICATIONS	4
1.10 AERODROME INFORMATION	4
1.11 FLIGHT RECORDERS	4
1.12 WRECKAGE AND IMPACT INFORMATION	4
1.13 MEDICAL AND PATHOLOGICAL INFORMATION	5
1.14 FIRE	6
1.15 SURVIVAL ASPECTS	6
1.16 TEST AND RESEARCH	6
1.17 ORGANIZATIONAL AND MANAGEMENT INFORMATION.....	6
1.18 ADDITIONAL INFORMATION.....	6
1.19 USEFUL INVESTIGATIVE TECHNIQUES	6
2.0 ANALYSIS	6
3.0 CONCLUSIONS.....	7
3.1 FINDINGS	7
3.2 PROBABLE CAUSE	7
3.3 CONTRIBUTORY FACTORS.....	7

ABBREVIATION

AD	-	Airworthiness Directives
AMO	-	Aircraft Maintenance Organization
AME	-	Aircraft Maintenance Engineer
AIP	-	Aeronautical Information Publication
AOC	-	Air Operating Certificate
CPL	-	Commercial Pilot License
DAAII	-	Directorate of Aircraft Accident and Incident Investigation
ELT	-	Emergency Locator Transmitter
ECU	-	Engine Control Unit
FADEC	-	Full authority digital engine control
ICAO	-	International Civil Aviation Organization
NTSB	-	National Transportation Safety Board
NCAA	-	Namibia Civil Aviation Authority
MHZ	-	Megahertz
MOE	-	Maintenance Organization Exposition
NAMCARs	-	Namibian Civil Aviation Regulations
NCAA		Namibian Civil Aviation Authority
NTSB	-	National Transportation Safety Board
PPL	-	Private Pilot License
MPI	-	Mandatory Periodic Inspection
SB	-	Service Bulletins
UTC	-	Universal Time Co-ordinated





DIRECTORATE OF AIRCRAFT ACCIDENT INVESTIGATION ACCIDENT REPORT – EXECUTIVE SUMMARY

Aircraft Registration	V5- ULT	Date of Accident	17 th December, 2020		Time of Accident	12:02 UTC
Type of Aircraft	CALIDUS. AUTO- GYROCOPTER		Type of Operation		Private	
Pilot- In - command License Type		GYR 72008	Age	40	License Valid	Not valid
Pilot-In-command Flying Experience		Total Flying Hours	84.9		Hours on Type	74.9
Last point of departure		FYWE (Eros airport)				
Next point of intended landing		FYWE (Eros airport)				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
GPS 22 33'40."S 17 11'34 E Windhoek						
Meteorological Information	Wind Direction: 160 ° , Wind speed: 15 kt , Visibility: CAVOK Cloud cover: Fine, Cloud base: CAVOK, Temperature: 32.4° C, Dew point: -4					
Number of people on board	1+1	No. of people injured	0	No. of people killed	2	

Synopsis

On the 17th Dec 2020, at around 14:02 local time a privately owned, Namibian registered gyrocopter got airborne from Eros airport for a private flight overflying Heja lodge and then back to Eros Airport. On-Board were the pilot and one passenger.

Shortly after take-off, the Air Traffic Controller (ATC) lost communication with the gyrocopter. It was then reported by onlookers that the gyrocopter hit the power lines and crash-landed on the road and burst into flames. It was consumed by the fire before the arrival of the fire fighters around 30 minutes later. The pilot and passenger sustained fatal injuries.

The Aircraft was substantially damaged on impact and was thereafter consumed by the ensuing fire.

A member of public driving on the road informed the Directorate of Aircraft Accident and Incident Investigation (DAAII) telephonically. The Minister of Works and Transport Ministry was responsible for the release of the official final accident report.

The weather was fine with good visibility.

The pilot was a Namibian Citizen who was a holder of a Gyroplane license Pilot License. His medical certificate was not valid due to the fact he failed the health fitness test, The last medical certificate on records was valid until 31/12/2017. The Namibian Civil Aviation Authority rejected his application for license renewal.

The medical examiner certified him as temporally unfit on 23/06/2020.

The Aircraft was categorized as an experimental aircraft.. The last annual inspection was conducted on 06/08/2020 at 719.6 hours.

Probable Cause: Controlled Flight into an obstacle (high voltage power lines) due to low flying operations, and subsequent collision with terrain.

Contributing factor (s):

1. Disregard for Regulatory Operating Procedures by operating an aircraft without a valid license.
2. Disregard for Regulatory Operating Procedures by operating an aircraft while medically unfit and possibly in an impaired condition.
3. Failed to comply with instructions, the pilot was cleared to fly at 7000 ft Mean Sea Level (MSL) instead but he flew at an extremely low level striking the power lines at about 35ft Above Ground Level.



AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Pierre Wilhelm Blaauw
Manufacture : Auto-Gyro Germany, Calidus
Model : 404
Nationality : Namibian
Registration : V5 - ULT
Location : GPS 22 33'42."S 17 11'29 E Windhoek
Date : 17th Dec 2020 Time: 12:12 UTC (14:12 local time)

All times given in this report are in Co-ordinated Universal Time (UTC).

Disclaimer:

The report is given without prejudice to the rights of the Directorate of Aircraft Accident and Incidents Investigations, which are reserved.

Purpose of the Investigations:

In terms of the Namibian Civil Aviation Act (Act No. 6 of 2016) and ICAO Annex 13, this report was compiled in the interest of the promotion of aviation safety and the reduction of risk of aviation accidents or incidents and **not to establish blame or legal liability.**

This report contains facts relating to aircraft accidents or incidents that have been determined at the time of issue. The report may therefore be revised should new and substantive facts are made available to the investigator (s).

1. FACTUAL INFORMATION

1.1 History of Flight

- 1.1.1 On the 17th Dec 2020, at around 14:02 local time a privately owned, Namibian registered gyrocopter took off from Eros airport for a private flight overflying Heja lodge and then back to Eros Airport. Onboard were one pilot and one passenger.
- 1.1.2 The pilot who was the owner of the gyrocopter communicated with the Air Traffic Controller (ATC) at Eros airport, he had two hours of fuel and was planning to do a short flight around Heja lodge and back. He initially requested for runway 01 then changed to runway 19 which he was cleared for a 'right-hand turnout over the field to Heja lodge'.
- 1.1.3 The gyrocopter hit high voltage power lines, crash-landed on the road and burst into flames. It was consumed by the ensuing fire before the arrival of the firefighters around 30 minutes later. The pilot sustained serious injuries before being taken to hospital where he succumbed to the injuries early morning on the next day (18th Dec 2020). The passenger sustained fatal injuries and a Post Mortem was scheduled for 09:30 18 Dec 2020.
- 1.1.4 The Air Traffic Control who was in contact did not receive a distress call. DAAII was informed by a member of public driving on the road and immediately activated the response procedures and commenced with its investigation on site. The accident site was on the road going from city center to Hosea Kutako airport approximately 15 km away. GPS 22 33'40." S 17 11'34.E. 12:12 UTC. Daytime.

1.2 Injuries to Persons

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

1.3 Damage to Aircraft

1.3.1 The aircraft was destroyed



Figure 1: Gyrocopter destroyed then consumed by post impact fire.

1.4 Other Damage

1.4.1 The gyrocopter struck power lines however they were not energized at the time. There was no other damage.

1.5 Personnel Information

Nationality		Namibian			
Licence No	SPL 72008	Gender	Male	Age	40
Licence valid		No*	Type Endorsed	Yes	
Ratings		Night flying, Instrument			
Medical Expiry Date		31 March 2020			
Restrictions		None			
Previous Accidents		Unknown			

*Although the validity of a gyroplane pilot license remains valid indefinitely, its validity depends on the validity of type ratings, medical certificate and pilots ability to retain proficiency in terms of the Namibian Aviation regulations 2001, as amended.

The pilot did not have a valid medical certificate.

The medical examiner authorized by the regulator did an examination and issued a certificate DD50A which certified the pilot as being 'temporarily unfit to fly on 23/06/2020. The certificate indicated that the pilot suffered multiple sclerosis and referred for opinion to the medical assessor at the authority. The pilot appealed to the specialist panel on the 7th September 2020 however by the time of the accident the appeal was still ongoing.

Flying Experience:

Total Hours	84.9
Total Past 90 Days	0
Total on Type Past 90 Days	0
Total on Type	74.9



1.6 Aircraft Information



Figure 1: Calidus Autogyro (file photo).

The Calidus Autogyro is a single-engine, Closed, two-seat autogyro in tandem configuration. It is a Monocoque cell with a closed canopy fitted with an emergency vision vent and 2 side vents (left and right) The aircraft fuselage is made from composites and is a faired teardrop shape to ensure smooth airflow over the variable-pitch pusher propeller. Its 8.4 m (27.6 ft) diameter rotor has a chord of 20 cm (7.9 in). The aircraft has an empty weight of 265 kg (584 lb) and a gross weight of 450 kg (990 lb), giving a useful load of 185 kg (408 lb).

Airframe:

Type	Calidus Autogyro	
Serial No.	C 00235	
Manufacture	AutoGyro GmbH of Hildesheim	
Year of Manufacture	2012	
Total Airframe Hours (At time of Accident)	723.3	
Last MPI (Date & Hours)	06/08/2020 at 723.3 airframe hours	
Hours since Last MPI	3.7 hours	
C of safety for flight	06/08/2020 valid till 06/08/2021	
C of R (Issue Date) Present owner	7th July 2016	
Operating Categories	Experimental	

Engine:

Type	Rotax 914	
Serial No.	7682127	
Hours since New	723.3	

1.7 Meteorological Information

Wind direction	160°	Wind speed	15kts	Visibility	Good
Temperature	32.4° C	Cloud cover	None	Cloud base	CAVOK
Dew point	-4				

1.8 Aids to Navigation

1.8.1 The aircraft was equipped with standard navigation equipment as approved by the Regulator.

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1.9 Communications.

- 1.9.1 The gyrocopter was equipped with standard communication equipment as approved by the Regulator for the gyrocopter type. There was no reported communication problem between the pilot and the Air Traffic Controller.

1.10 Aerodrome Information

The accident did not occur on an aerodrome.

1.11 Flight Recorders

- 1.11.1 The Aircraft was not equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR) nor was it required by the relevant aviation regulations.

1.12 Wreckage distribution and Impact Information

The accident occurred approximately 15 km outbound from Windhoek.

The gyrocopter was flying very low along the road leading to Hosea kutako airport. He then hit the powerlines which are about 35m/114 feet. This stopped the gyrocopter which fell on the road and was later engulfed with fire.



Figure 2: the wreckage laying across the road after hitting power lines.

1.13 Medical and Pathological Information

1.13.1. Medical history

The 40-year-old pilot held a Private Pilot License with Gyrocopter rating issued on the 11th May 2017. In terms with the Namibian Civil Aviation regulations 2001 as amended, 2001, 'The license shall remain valid for an indefinite period provided the holder has a valid type ratings, a valid medical certificate and maintains proficiency in terms of said regulations'.

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The last valid medical examination was conducted on 15th March 2017 and was valid until 31st March 2019. The pilot underwent a medical evaluation and according to form DD50 A issued by the approved medical doctor, the pilot was deemed temporary unfit on the 23rd June 2020. The pilot appeal had not yet been approved by the authority's medical assessor.

Toxicology

Screening for alcohol was positive in all the occupants. The pilot had positive readings for blood ethanol at 0.011 g/dl. (Subclinical, relaxation.). A witness testified that the pilot had been consuming a bottle of whiskey with the other occupant the night before the accident.

Screening for other psychoactive substances was ongoing by the time of the finalization of the report. The forensics department under the Ministry of Safety and Security was still in the process of analyzing the specimen sent to them by the hospital.

Pathology

According to form Ges 7/15 (Report on Medico-Legal –Post Mortem Examination) issued by the Ministry of Health and Social Services (21st December 2020). The pilot succumbed to the injuries incurred as a result of the post-impact fire.

1.14 Fire

1.14.1. The gyrocopter hit the high voltage power-line at 200ft/10 m and fell to the road when the aircraft then burst into flames and consumed most of the aircraft. Around 30 minutes later, a fire truck from the Windhoek municipality arrived and extinguished the fire.

1.15 Survival Aspects.

1.15.1 This was not a survivable accident as the ensuing fire occurred far away from an aerodrome that could have extinguished the fire.

1.16 Tests and Research.

1.16.1. None.

1.17 Organizational and Management Information.

1.17.1. The aircraft was flown for private use.

1.17.2 The Aircraft which is categorized as an experimental aircraft,. The last annual inspection was conducted on 06/08/2020 at 719.6 hours.

1.18 Additional Information

1.19 Useful or Effective Investigation Techniques.

1.19.1 Not applicable.

2. ANALYSIS

2. 1. The aircraft was equipped with standard navigation and communication by the regulator for the Aircraft type.

2. 2. The pilot had no valid medical certificate.



- 2.3 The pilot had underlying medical conditions that prevented his license from being renewed.

3. CONCLUSION

3.1 Findings

- 3.1.1 The aircraft had a valid Certificate of safety for flight.
- 3.1.2 There was no evidence of airframe failure or system malfunction prior to the accident.
- 3.1.3 The pilot did not have a valid licence.

3.2. Probable Cause/s

3.2.1. Controlled Flight into an obstacle (high voltage power lines) due to low flying operations, and subsequent collision with terrain.

3.3 Contributing factor

- 3.3.1 Disregard of regulatory operating procedures by operating an aircraft without a valid license.
- 3.3.2. Disregard of regulatory operating procedures by operating an aircraft while medically unfit.
- 3.3.3 Failure to comply with instructions, the pilot was cleared to fly at 7000 ft (MSL) 500ft (AGL) but was flying at extremely low level at 36 ft AGL which was the height of the power lines.

4.0 Safety Recommendations

4.1 Safety recommendation number 001/2021 V5-ULT

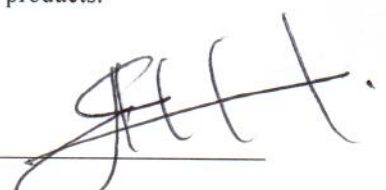
Investigations indicated that:

1. The pilot did not have a valid license based on the fact that he had failed to obtain his medical fitness certificate, he however boarded and proceeded to fly nevertheless.
2. The passenger and friend entered the aerodrome security restricted area without any security check or clearance. There was a general observation that many people enter these areas without much restrictions.
3. Investigations also revealed that the passengers were also in possession of several units of alcohol (beer as well as a bottle of whiskey) and we're already in an intoxicated state and continued to consume alcohol at the private hangar.
4. The airside area within the aerodrome (Apron, taxiway and runways) have restricted entryways, however, it is observed that many at times the gates are left open and anyone within the commercial areas can gain access.

Consequently, DAAII issued interim safety recommendations to the Aerodrome operator and to the Civil Aviation Authority to review the practices and procedures at the aerodrome.

Action taken

The Aerodrome operator management through the approved quality control program carried out an assessment with existing stakeholders to enhance safety and security concerns. Security personnel were deployed to guard the entry points at the gates proceeding the entry into taxiway and runway. The Aerodrome operator also enhanced access to the commercial area to ensure no an authorized access of people or products.

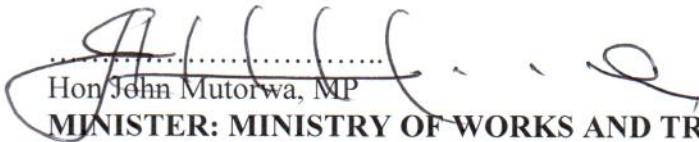




Hafeni Mweshixwa
Investigator-in-Charge

Date: ...3/2/22...

Released by:



Hon John Mutorwa, MP
MINISTER: MINISTRY OF WORKS AND TRANSPORT

Date: ...4.3.2022...