



# AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/9035	
<b>Aircraft Registration</b>	<b>ZU-EMR</b>	<b>Date of Accident</b>	27 April 2012		<b>Time of Accident</b>	1452Z
<b>Type of Aircraft</b>	Gyro MT-03		<b>Type of Operation</b>		Private	
<b>Pilot-in-command Licence Type</b>		Recreation Learner Pilot	<b>Age</b>	66	<b>Licence Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>		Total Flying Hours	89.3		Hours on Type	89.3
<b>Last point of departure</b>		Private strip in Fouriesburg-(Free State Province)				
<b>Next point of intended landing</b>		Tempe airfield - (Free State Province)				
<b>Location of the accident site with reference to easily defined geographical points (GPS readings if possible)</b>						
On a farm in Dealseville near R64 road GPS coordinates S28° 48,187' E 025° 50 531'						
<b>Meteorological Information</b>		Wind direction :280°;Wind speed:10knots ; Temperature: 21°C;Dew point 02°Ccloud and visibility ok (CAVOK)				
<b>Number of people on board</b>	1+ 0	<b>No. of people injured</b>	0	<b>No. of people killed</b>	1	
<b>Synopsis</b>						
<p>The pilot took off from a private farm strip in Fouriesburg on a local private VFR flight with the intention to land at Tempe airfield when the accident occurred. While en-route the gyroplane collided with telephone wires. After the collision with the telephone wires, the pilot lost control and the aircraft impacted the ground.</p> <p>The pilot was fatally injured in the accident. The gyroplane was destroyed during the accident sequence.</p> <p>The investigations found no abnormalities on the engine operation, it was concluded that the engine was operating at the time of the accident.</p>						
<b>Probable Cause</b>						
<p>The gyroplane collided with telephone wires, where after the pilot lost control and the gyroplanecollided with the ground.</p>						
<b>IARC Date</b>				<b>Release Date</b>		



## AIRCRAFT ACCIDENT REPORT

**Name of Owner/Operator** :Van der Merwe C A  
**Manufacturer** :Auto Gyro Europe  
**Model** :MT-03  
**Nationality** :South African  
**Registration Marks** :ZU-EMR  
**Place** :On a farm in Dealseville near R64 road GPS coordinates S28° 48,187' E 025° 50 531'  
**Date** :27 April 2012  
**Time** :1452Z

*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 of the Investigation :

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (1997) 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 establish legal liability**.*

### Disclaimer:

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

## 1. FACTUAL INFORMATION

### 1.1 History of Flight

- 1.1.1 On 27 April 2012, the pilot who was the sole occupant on board the gyroplane, departed from a private farm strip in Fouriesburg with the intention to land at Tempe airfield when the accident occurred.
- 1.1.2 En-route to Tempe airfield the gyroplane collided with the telephone wires at a GPS position of S28° 48,187' E 025° 50 531' on a private farm in Dealsevielle area.
- 1.1.3 The pilot was fatally injured and the gyroplane was destroyed during the accident sequence.

### 1.2 Injuries to Persons

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

### 1.3 Damage to Aircraft

1.3.1 The aircraft was destroyed during the accident.



Figure 1: Damage to the Gyrocopter

### 1.4 Other Damage

1.4.1 Other damage was caused to the telephone wire which was severed by the gyroplane as it struck the wire.



Figure 2: Damage to the telephone wires

### 1.5 Personnel Information

Nationality	South African	Gender	Male	Age	66
Licence Number	0270067663	Licence Type	Recreational Learner Pilot		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	30 April 2013				
Restrictions	To have reading spectacles available in aircraft and to wear protective headsets				
Previous Accidents	None				

- 1.5.1 The only copy that was found from the Recreation Aviation Administration South Africa(RAASA) was for recreational learner pilot and the pilot was flying solo at the time of the accident.

Flying Experience:

Total Hours	89.3
Total Past 90 Days	16.7
Total on Type Past 90 Days	16.7
Total on Type	89.3

- 1.5.2 The pilot's logbook was not located at the accident site; the information tabulated above was taken from the pilot copies of the logbook with the last entry date on the 21 January 2012 and the flight folio.

## 1.6 Aircraft Information

**Airframe :**

Type	MT-03	
Serial Number	06-ZA-018	
Manufacturer	Auto Gyro	
Total Airframe Hours (At time of Accident)	273.13	
Last Annual inspection(AI)(Date & Hours)	9/3/2012	265
Hours since Last Annual Inspection	8.13	
Authority to Fly (Expiry Date)	12 May 2012	
C of R (Issue Date) (Present owner)	12 May 2011	
Operating Categories	Private operations	

**Engine :**

Type	ROTAX
Serial Number	4419549
Hours since New	273.13
Hours since Overhaul	Unknown

**Propeller :**

Type	HTC 172 CCW 3B
Serial Number	211
Hours since New	Unknown
Hours since Overhaul	Unknown

## 1.7 Meteorological Information

1.7.1 The following weather information was obtained from the internet weather service:

Wind direction	280°	Wind speed	10knots	Visibility	10km
Temperature	21°C	Cloud cover	Clear sky	Cloud base	N/A
Dew point	02°				

1.7.2 The police indicated to the investigator the weather was fine at the time of the accident.

## 1.8 Aids to Navigation

1.8.1 The gyroplane was equipped with standard navigational equipment approved by the regulator for the aircraft type. No defects were reported prior to or during the flight.

## 1.9 Communications.

1.9.1 The gyroplane was equipped with VHF (very high frequency) radioequipment certified for this aircraft type. No defects were reported prior or during the flight.

## 1.10 Aerodrome Information

1.10.1 The accident occurred outside the boundaries of an aerodrome at the GPS coordinates S28° 48,187' E 025° 50 531' .

## 1.11 Flight Recorders

1.11.1 The gyroplane was not fitted with a Flight Data Recorder (FDR) or Cockpit Voice Recorder(CVR). Neither recorder was required to be fitted to the gyrocopter by the relevant aviation regulations.

## 1.12 Wreckage and Impact Information

1.12.1 The gyroplane approached the telephone wires from anotherly direction. After colliding with the telephone wires it crashed into the ground, 34 m beyond the telephone wires. The main rotor blade was the 1<sup>st</sup> to contact the ground followed by the cockpit canopy.

1.12.2 The accident happened in an open field at an elevation of 4096 ft AMSL.

1.12.3 The nose landing gear severed from the gyroplane during the ground impact and was located 12 m ahead of the main wreckage.

1.12.4 The spat on the left-hand main landing gear had scuff marks indicating that, that was the 1<sup>st</sup> contact with the telephone wires. This was supported by yellow paint marks from the spat on the telephone wires.

1.12.5 The right-hand main landing gear was clear of any wire strike marks.

1.12.6 The main wreckage was lying on its right hand side and the cockpit area was destroyed during the ground impact.

1.12.7 The engine was intact and sustained no visible damage.



Figure 3: The wire marks on the left gear



Figure 4: The yellow paint mark on the wire

### 1.13 Medical and Pathological Information

1.13.1 The pilot was wearing the safety harness installed in the gyrocopter at the time of the accident and the safety harness did not fail.



1.13.2 A post mortem examination was carried out on the pilot following the accident. The results of the post mortem and toxicology tests were not available at the time of compiling this report. Should any results, once received, indicate that a medical aspect might have affected the performance of the pilot, this will be considered new evidence and the investigation be re-opened.

#### **1.14 Fire**

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

#### **1.15 Survival Aspects**

The accident was not considered survivable due to the high vertical and longitudinal impact loads on the cockpit of the gyroplane. The pilot made use of the safety harness installed in the gyrocopter and the safety harness did not fail.

#### **1.16 Tests and Research**

1.16.1 The onsite investigation revealed that there was sufficient fuel in the tanks. The fuel filter was opened and found clean. The fuel lines were inspected for blockages and found clean and it was ascertained that there were no obstruction and fuel flowed freely. No fuel contamination was evident during the on-site investigation.

1.16.2 Following the onsite investigation, the gyroplane was recovered and transported to an approved facility in Pretoria for further investigation on the engine. No abnormalities were revealed and the engine operated satisfactory on the test bench.

1.16.3 The gyroplane's turbo control unit (TCU) was removed and sent for further analysis. This analysis showed that the engine had a total of 273.13 hours and the last engine revolutions per minute (RPM) was 4465 at 44% throttle which indicated that the engine was operating at the time of the accident. The telephone mast was approximately 6m in height.

#### **1.17 Organizational and Management Information**

1.17.1 The gyroplane was privately operated by the pilot on the day of the accident.

1.17.3 Available records indicate that the gyrocopter was correctly maintained as required by the manufacturer and the regulator.

#### **1.18 Additional Information**

1.18.1 None.

#### **1.19 Useful or Effective Investigation Techniques**

1.19.1 None.

## **2. ANALYSIS**

- 2.1 On the 27 April 2012, the pilot who was the sole occupant on board the gyroplane departed from his private farm on a private flight with the intention to land at Tempe airfield when the accident occurred.
- 2.2 The engine was tested and operated normal. The fuel lines were inspected for blockages and found clean and it was ascertained that there were no obstruction and fuel flowed freely. The filters were checked and found to be clean. Fuel was checked at the site and no trace of water was noticed by the investigators. The downloaded information from the TCU further confirms that the engine was operating prior to the accident.
- 2.3 There was no record of any malfunction or defect recorded that could have contributed to the cause of the accident. The aircraft was serviceable prior to the accident.
- 2.4 The inspection of the gyroplane left landing gear revealed marks associated with the impact of a metal cable. Evidence of a broken telephone wire had the yellow marks which indicated that the left landing gear had impacted the wire.
- 2.5 The telephone pole was approximately 6m high.

## **3. CONCLUSION**

### **3.1 Findings**

- 3.1.1 The available pilot licence found at the accident was valid at the time of the accident.
- 3.1.2 The aircraft had a valid authority to fly and a Certificate of Registration.
- 3.1.3 The maintenance records indicated that the aircraft was maintained in accordance with existing Civil Aviation regulations.
- 3.1.4 Prevailing weather conditions at the time of the accident did not have an effect on this accident.
- 3.1.5 The pilot was fatally injured.
- 3.1.6 The gyroplane collided with the telephone wires, where after the pilot lost control and the gyroplane collided with the ground.

### **3.2 Probable Cause/s**

- 3.2.1 The gyroplane collided with telephone wires, where after the pilot lost control and the gyroplane collided with the ground.



#### **4. SAFETY RECOMMENDATIONS**

4.1 None.

#### **5. APPENDICES**

5.1 None

Compiled by:

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Date: .....

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Date: .....