



ΕΠΙΤΡΟΠΗ ΔΙΕΡΕΥΝΗΣΗΣ ΑΕΡΟΠΟΡΙΚΩΝ
ΑΤΥΧΗΜΑΤΩΝ & ΣΥΜΒΑΝΤΩΝ ΚΥΠΡΟΥ



AIRCRAFT ACCIDENT & INCIDENT
INVESTIGATION BOARD CYPRUS

Αρ. Φακ.: 16.15.01. 10 /14

Αρ. Τηλ: 22-800210

Αρ. Φαξ: 22-800212

**FINAL REPORT ON THE ACCIDENT OF PARAMOTOR GLIDER (SERIAL No. 000990) WHICH
CRASHED IN AKAMAS PENINSULA ON 05 AUGUST 2014**

OBJECTIVE OF THE INVESTIGATION

In accordance with art.3.1 of Annex 13 dated 18 November 2010 and Regulation 996/2010 dated 20 October 2010, **"the sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability."**

Aircraft Operator: PRIVATE

Aircraft Type and Model: Paramotor, Parajet (Zenith) airframe fitted with a Polini Thor 100 engine.

Registration: N/A

Serial no.: 000990

Location: Approximate position 35 04 48N – 032 18 36 E in Akamas Peninsula, close to Spitia tis Rigenas

Date and Time: 05 August 2014, 1650 UTC, 1950 LT



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ABREVIATIONS:

AAIIB	AIRCRAFT ACCIDENT AND INCIDENT INVESTIGATION BOARD
APPI	ASSOCIATION OF PARAGLIDING PILOTS AND INSTRUCTORS
E	EAST
EASA	EUROPEAN AVIATION SAFETY AGENCY
FT	FEET
HP	HORSE POWER
JRCC	JOINT RESCUE COORDINATION CENTRE
KG	KILOS
KM	KILOMETRES
KTS	KNOTS
LBS	LIBRES (POUNDS)
LT	LOCAL TIME
LTRS	LITRES



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M	METRE
N	NORTH
N.E.	NORTH EASTERLY
UTC	COORDINATED UNIVERSAL TIME
FT	FEET



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SYNOPSIS

The AAIIB was notified by JRCC that an incident occurred at Akamas Peninsula closed to Spitia tis Rigenas involving a paramotor.

The pilot of a paramotor glider while flying at a height approximately 400 FT above the ground and while attempting to fly from sea to land, the paramotor has been affected by wind gust resulting in a force landing on a bush causing multiple injuries to the pilot.

1. FACTUAL INFORMATION

1.1. HISTORY OF THE FLIGHT

On 5th August 2014 the pilot has planned a pleasure flight with his paramotor glider in the Akamas Peninsula departing from Avakas gorge to Cape Arnauti, then towards Fontana Moroza, Blue Lagoon and return back to the point of departure.

At 18:20 local he departed in ideal weather conditions and flew towards Cape Arnauti following the west coast of Akamas Peninsula at a height of 300ft and cruising speed 55km/h arriving at the cape Arnauti after 55 minutes. At that point the pilot turned east and attempted to climb over the hill by increasing the altitude to approximately 1000ft.

After climbing the hill, pilot commenced descending and at a height of around 700ft he realized that weather conditions abruptly altered. A strong head wind was encountered which made him reconsider to continue on this heading and decided to return back to Avakas gorge.

Pilot commenced the manoeuvres to change his heading and while flying at around 400ft over an area called Spitia tis Rigenas, according to his statement he felt a very strong wind gust hitting him from behind. The effect of the wind gust was the stalling of the paramotor canopy.



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Pilot stated also that he saw the canopy twisting losing completely control and due to the low altitude could not use the spare parachute. Paramotor glider crashed into a bush which fortunately saved his life.

The pilot although suffering serious injuries managed to communicate with the Police Station of Poli Chrysochous using his cell phone and was located through the cell aerial the phone was coupled with. The time of the accident occurrence as reported by JRCC was 16:50 UTC (19:50 LT).

1.2. INJURIES TO PERSONS

INJURIES	CREW	PAX	OTHER
FATAL	-	-	-
SERIOUS (multiple injuries)	1	-	-
MINOR/NONE		-	-

1.3. DAMAGE TO AIRCRAFT

Both tips of the propeller were damaged due to the impact. The three top blue spars that form the outer section cage and the three of the outer ring section found bent due to the impact with the ground.

1.4. OTHER DAMAGE

Canopy lines have been cut off prior to AAIIB arrival in order to free the pilot from the canopy and bushes.



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1.5. PERSONNEL INFORMATION

The pilot, age 45 years old is a member of Association of Paragliding Pilots and Instructors (APPI) with membership No 12270 issued 01 July 2013 by the Cyprus Paramotor School.

The pilot had 300hrs total experience on the type.

1.6. AIRCRAFT INFORMATION

Aircraft departed with no known defects.

Zenith Thor 100

Serial No.: 000990

Weight: 24.9kg

Propeller 2 Blade

Engine Type: 110cc, 2-stroke

Power Output: 20.5hp @ 8900 RPM

Static Thrust: 60kg (132lbs)

WING (CANOPY)

ATI54 small in size 20.43m² S/N 1360 – 11 – 1011

Manufacturer 10/2013

Propeller and Cage Guard

Dimensions: 140cm cage diameter

Weight: 10kg + engine



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APPENDIX 1





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1.7. METEOROLOGICAL INFORMATION

This incident occurred just prior of sunset with the following weather report: North Easterly (N.E) wind at 5 KTS (9.26 km/h), sky clear and visibility more than 10 km.

1.8. AIDS TO NAVIGATION

Not applicable.

2. ANALYSIS

All the damage observed to the paramotor unit was found to be consistent with either ground impact or actions taken in order to free the pilot from the bush and canopy /wing.

Given that, no evidence was found of any pre-accident mechanical or structural failures of the paramotor unit or the wing, the engine exhaust and engine mounting bracket were found intact. Fuel line was found connected to the tank and fuel tank was nearly half full.



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Note: After the accident, engine tested and confirmed that the working condition at idle power was satisfactory. Due to propeller tips being damaged on the impact, no full power test carried out. Harness and main frame found attached and in good condition.

The pilot was not involved in any other accident or incident on previous occasions and he claimed that he was fit to fly that day. He reported that he had not consumed any intoxicating liquor or taken any medication. He has been flying paramotors for the last 2 years and had performed numerous flights in different areas including this location (Akamas Peninsula) in the past. Last flight was three days before the incident. He is a member of Cyprus Paramotor Association.

Asymmetric collapse of the canopy can be caused by turbulence associated with thermal activity or by the effects of strong wind passing over local terrain steeply landscapes along the coastline. It can also be initiated by any pilot input that reduces significantly the angle of attack of one side of the wing compare to the other.

Avoiding turbulence is considered the best way to prevent collapse because any wing confronted with sufficiently strong vertical gust will collapse.

Any flight at low level in the vicinity of steeply sloping hill in the prevailing weather conditions would have been expected to encounter turbulent air.

The strong wind and thermal activity produced turbulence sufficient to induce an asymmetric collapse which occurred at a height from which the pilot was unable to effect a recovery.



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3. CONCLUSIONS

Paramotor unit and its canopy assembly were serviceable and fit to fly.

The pilot in the last two years accumulated a lot of experience flying power gliders and is considered experienced.

Weather conditions which prevail in the area flying just before sunset were the rapid variation of temperature and thermal activity between land and coast. These phenomena are more pronounced at low altitude and can induce turbulence, wind gusts/wakes and whirlwinds. The effect of the wind gust the pilot felt from behind was the stalling and twisting of the paramotor canopy.

Due to the low altitude he was flying did not have sufficient height to react and perform actions on the canopy controls to recover from stall.

Concluding, we would like to mention that in this accident, numerous articles of both Civil Aviation Law of 2002-2014 and Regulatory Administrative Act 359/2014 were not fulfilled.



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4. SAFETY RECOMMENDATION

Cyprus Paramotor Association and all paramotor training clubs are advised to raise awareness, to use extra caution when flying in zones where thermal activity is most likely to occur.

Flights during early afternoon till before sunset in areas confined between steep slope hills and the coast but also inland plain areas should be considered of higher probability to encounter thermal activity with turbulence.

Note:

The attention of all concerned is drawn to the adoption of the Civil Aviation Regulation Administrative Act 359/2014 articles 250 (2) and 259 on EASA Annex II aircraft with maximum take-off mass weight (MTOW) below 560 KGS.

(Ioannis Loizou)
Chairman of Cyprus Aircraft Accident
& Incident Investigation Board

13 February 2015