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AVIATION AND MARITIME INVESTIGATION AUTHORITY
Námestie slobody 6, P.O.BOX 100
810 05 Bratislava 15

FINAL REPORT

on Safety Investigation
of a flying sports device
Axis Paraglider VEGA 4 L
registration mark **OM-P801**

Reg. No.: **SKA2019001**

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The investigation of occurrence has been conducted pursuant to Art. 18 of the Act No. 143/1998 on Civil Aviation (Civil Aviation Act) and on Amendment of Certain Acts and in accordance with the Regulation (EU) No. 996/2010 of the European Parliament and of the Council on investigation and prevention of civil aviation accidents and incidents, governing the investigation of civil aviation accidents and incidents.

The final report is issued in accordance with the Regulation L 13 that is the application of the provisions of ANNEX 13 Aircraft Accident and Incident Investigation to the Convention on International Civil Aviation.

The exclusive aim of investigation is to establish causes of accident, incident and to prevent their occurrence, but not to refer to any fault or liability of persons.

This final report, its individual parts or other documents related to the investigation of occurrence in question have an informative character and can only be used as recommendation for the implementation of measures to prevent occurrence of other accidents and incidents with similar causes.

A. INTRODUCTION

Operator/Owner:	private person
Type of operation:	general aviation/sports and recreational flying
Type:	flying sports device – Axis Paraglider VEGA 4 L
Registration mark:	OM – P801
Take-off location:	Nitra – Zobor - Pyramída
Flight Phase:	climb during a thermal flight
Location of accident:	N 48°20'24,30'', E 018°05'34,80''
Accident date and time:	30.03.2019, 12:15

Note: All times in this report are in UTC time.

B. INFORMATIVE SUMMARY

On 30 March 2019, at 12:15, the parachute glider (hereinafter referred to as the “PG”) collapsed during a thermal flight in the Zobor area (the “Kameňolom” site) with its subsequent fall to the ground.

The fall of the PG was seen by random tourists who came to the aid of the injured pilot. Firstly, the members of the Fire Rescue Service arrived at the place of the air accident, then the Emergency Medical Service and the police arrived. The injured pilot was transported by a medical rescue service to Nitra hospital after basic treatment.

A safety commission was established to investigate the causes of the accident:

Ing. Ladislav DOSPIVA - Chairman of the Safety Investigation Commission
PaedDr. Miroslav JANČIAR - Member of the Safety Investigation Commission

Report issued by:

Aviation and Maritime Investigation Authority
Ministry of Transport and Construction of the Slovak Republic

C. MAIN PART OF THE REPORT

1. FACTUAL INFORMATION
2. ANALYSIS
3. CONCLUSIONS
4. SAFETY RECOMMENDATIONS

1. FACTUAL INFORMATION

1.1 History of the flight

The PG pilot performed the Zobor - Pyramída flight on the given day. There were also other pilots of flying sports devices/FSD at the start.

Before the flight, the pilot performed a pre-flight check of the PG, dressed himself in a harness and performed a take-off in order to finish the flight in the landing area west of Nitra.

The flight itself was without complications.

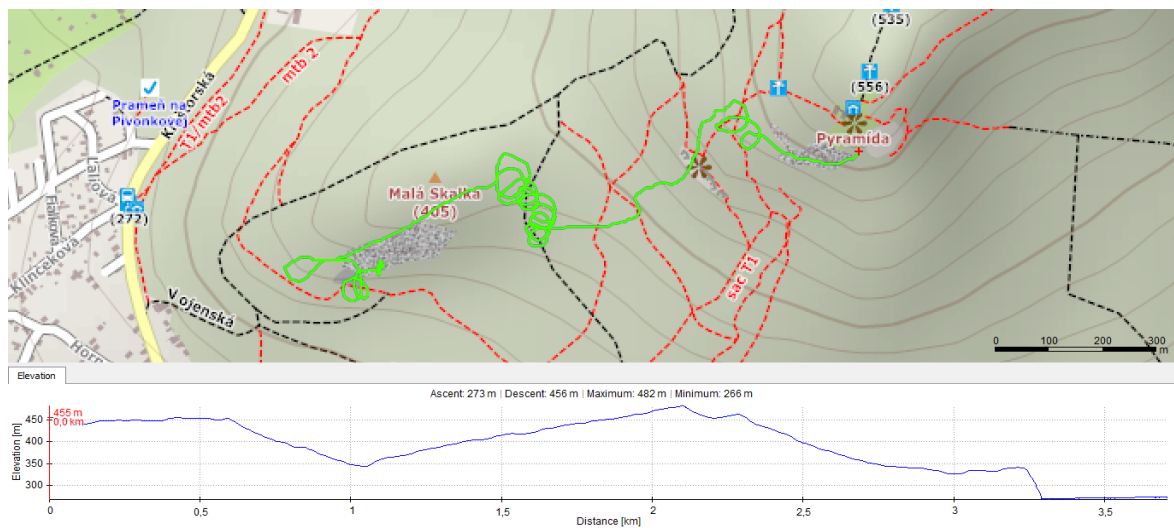


Fig. No. 1 Flight Trajectory

After 20 minutes of flight, he reached the area of “Kameňolom,” about 50 meters above the ground. This place is generally known as thermal, where FSD pilots can climb. The pilot began to climb 360 degrees at the first thermal vertical gust in turns. After three turns he reached a height of about 80 m above the terrain, when the second and then the third much stronger thermal vertical gust arose, which caused the collapse of the PG canopy. Despite the effort, the pilot failed to regenerate the PG canopy to a normal flight position and a fall followed subsequently. The pilot did not manage to use the reserve parachute.

The pilot hit the rocky surface and the PG canopy caught on the surrounding trees.

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Fig. No. 2 PG canopy at the air accident site

The pilot suffered serious injuries on impact. Aid was provided to the pilot by tourists who also called for medical assistance and the police. The pilot was conscious and transported to the Nitra Hospital after basic treatment.

The air accident was reported to the Aviation and Maritime Investigation Authority of the Ministry of Transport and Construction of the Slovak Republic by a member of OO PZ Nitra-Chrenová.

Daytime Period: Day
Flight rules: VFR

1.2 Injuries to people

Injury	Crew	Passenegers	Other persons
Fatal	-	-	-
Serious	1	-	-
Minor	-	-	-
None	-	-	-

1.3 PG damage

The PG was damaged to a large extent in the air accident. Damage was caused by the trapping in obstacles (trees) for three chambers on the right side of the PG.

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Fig. No. 3 Damage to the chamber of the PG canopy after the impact on obstacles

The free ends of the PG were cut to provide assistance to the pilot.



Fig. No. 4 Cutting free ends of PG

1.4 Other damage

No circumstances have been reported to the Aviation and Maritime Investigation Authority with the possible compensation claim of other damages to a third party.

1.5 Personnel information

Pilot:

citizen of the Slovak Republic, age 47, holder of a pilot license issued by LAA SR on 22.04.2008.

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Qualifications

PG-A Pilot	Date of issue 31.03.2008 with marked validity until 28.02.2020
PG-B pilot	Date of issue 07.04.2013 with marked validity until 28.02.2020
PG-C Pilot	Date of issue 16.02.2016 with marked validity until 28.02.2020
PPG-A Pilot	Date of issue 03.10.2009 with marked validity until 28.02.2020

Total pilot flight hours according to the data given in the application for the extension of the pilot license of 26.02.2018 was:

250 hrs on parachute gliders and
54 hours on powered parachute gliders.

According to the pilot, he'd had a total of 280 flight hours on parachute gliders on the day of the air accident.

1.6 **Information on PG**

Type:	Axis Paraglider VEGA 4 L
License plate:	OM – P801
Serial Number:	25414808L
Year of Manufacture:	2014
Manufacturer:	Axis Paraglider

Airworthiness Certificate FSD No. 18006 issued on 28.08.2014 with marked validity until 11.01.2020.

1.7 **Meteorological information**

On 30.03.2019 higher pressure intervened in the warm air on the territory of the SR.

At about 12:15 in the cadastre of Nitra, borough of Zobor, it was partly cloudy with high Cirrus and Cirrostratus clouds without precipitation or other dangerous phenomena. The air temperature was about 15 °C at the top of Zobor Hill and 18 °C in Nitra and the relative humidity was 35 %. The horizontal visibility was approximately 20 km. Only a mild to moderate wind was blowing, mostly south to southeast with a speed of 3-4 m/sec.

There was a free air flow on 30.03.2019 at 12:00 over the cadastre of Nitra city as follows. At a height of 1,000 m above sea level, the southwest wind was blowing at a speed of about 3 m/sec. The air temperature at this level was about 10 °C. The wind speed did not change at lower levels, with the direction gradually changing from southwest to southeast. A south to southeast wind was blowing at a height of 600 m above sea level with a speed of approximately 3 to 4 m/sec. Thermal convection had an impact on wind speed and direction in the morning during thermal warming.

1.8 **Aids to navigation**

Not applicable.

1.9 **Communications**

Not applicable.

1.10 **Aerodrome information**

Starting point: Take-off area of Zobor - Pyramída (556 m above sea level).

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1.11 Flight recorders and other recording aids

The flight trajectory was obtained from a GPS device, Model-XC-trainer Easy, v. No: 1352 (the pilot used the equipment in flight).

1.12 Wreckage and impact information

The fall of the PG occurred in the “Kameňolom” area southwest of the starting point. The accident site is defined by the geographical coordinates:

N 48° 20'24,30"

E 018°05'34,80"

1.13 Medical and pathological information

The pilot suffered severe injuries to the chest, liver, spleen, elbow, femur, pelvis, and vertebral and lumbar vertebrae.

1.14 Fire

None.

1.15 Survival aspects

SAR search and rescue was not necessary.

1.16 Tests and research

Not applicable.

1.17 Organizational and management information

The flight activity was performed in accordance with aeronautical regulations in the Class G area, which are valid in the territory of the Slovak Republic.

1.18 Additional information

Not applicable.

1.19 Useful or effective investigation techniques

Regular investigation methods have been used.

2. ANALYSIS

Pilot activity

According to the pilot, the flight in the first phase was calm, without significant turbulence, and in his words the wind was acceptable for the flight.

The PG canopy collapse occurred during the climbing in the “Kameňolom” area. Despite his efforts, the pilot failed to regenerate the PG canopy to a normal flight position, leading to its fall.

The pilot did not have sufficient height to use the reserve parachute.

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3. CONCLUSION/Cause of the air accident

3.1 Findings

The pilot had a valid qualification to conduct flights on the PG category according to the submitted documentation.

The pilot had appropriate experience to conduct the flight.

PG had a valid airworthiness card.

3.2 Causes of air accident

The collapse of the PG canopy was caused by thermal turbulence as a consequence of rising and falling currents affected by the uneven overheating of the air layers in the vertical direction in the flight area.

The pilot did not have sufficient height to resolve the crisis.

4. SAFETY RECOMMENDATIONS

The final report on the investigation of the air accident in question contains no recommendations.

In Bratislava on 20.05.2019