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

FINAL REPORT

on the safety investigation
of flying sports device

type **paraglider** FORCE 2M, APCO Aviation LTD
without a registration mark

Reg. No: **SKA2019006**

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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
Operation type:	general aviation/sports and recreational flying
Type:	paraglider, FORCE 2M, APCO Aviation LTD (hereinafter referred to as "PG")
Registration mark:	without a registration mark
Take-off site:	Nitra - Pyramída-Zobor (556 metres above the ground)
Flight phase:	take-off
Landing site:	fall of the PG after the take-off
Incident date and time:	21 September 2019, 10:10

Note: All time data in this Report is reported in UTC time.

B. INFORMATION SUMMARY

On 21 September 2019 at 10:10 the PG fell down during the take-off in the Nitra - Pyramída-Zobor area.

After the fall the pilot hit a rocky terrain, suffering serious injuries.

Emergency medical service and police was sent to the pilot. Immediate medical treatment was provided to the injured pilot. The pilot was conscious and transported by the medical rescue service to the Traumatology Department at the Faculty Hospital in Nitra.

A committee was set up to investigate the causes of the aviation accident:

Ing. Igor BENEK	Chairman of the Safety Investigation Committee
Ing. Juraj GXENES	Member of the Safety Investigation Committee

The Report has been issued by:

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

MAIN PART OF THE REPORT

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

1 FACTUAL INFORMATION

1.1 History of the flight

On 21 September 2019, 9th year of a paragliding competition for amateur paraglidists, Zobor Cup 2019, was held in the Nitra - Pyramída-Zobor area.

According to the pilot's statement, before the take-off the pilot made a visual inspection of the PG's technical condition (lifting the wing above the head, checking the lines, checking the closure of carbiners). Before the run-up the pilot checked meteorological conditions for the take-off (visually, southerly/south-easterly wind, up to 4 m/s).

After the inspection (the wing was OK) the pilot initiated a cross launch. The pilot turned into the take-off direction and performed run-up without using the power unit.

At the end of the launch area the pilot had a feeling he had lifted off the ground to height of 1-2 metres. Then the wing deflated and the PG fell onto a rocky terrain located below the pilot's feet in the direction of the launch. The pilot did not manage to clear the rocky terrain. The bottom part of the seat hit a rock and bounced to the right.

After hitting the rock the pilot suffered serious injuries.
The PG with accessories was taken by an unknown person.

The paragliding fall was reported to the Aviation and Maritime Investigation Authority of the Ministry of Transport and Construction of SR by an authorized representative of the District Police Directorate in Nitra.

Time of day: Day

Flight rules: VFR

1.2 Injuries of persons

Injury	Crew	Passengers	Other persons
Fatal	-	-	-
Serious	1	-	-
Minor	-	-	-
No injuries	-	-	

1.3 Damage to the PG

The PG was taken by a third person after the occurrence. The Safety Investigation Committee was not able to seize the PG with accessories during the investigation and so it could not identify any potential damage to the PG.

1.4 Other damage

No circumstances have been reported to the Aviation and Maritime Investigation Authority which might lead to any other claims for compensation of damage against a third party.

1.5 Personnel information

Pilot:

citizen of the Slovak Republic, aged 47;
does not hold a valid flying sports device license issued by LAA SR;
does not hold a valid Radiotelephone operator's general certificate of the Aeronautical service.

Licenses

None.

Medical certificate

None.

Flight experience

Based on the pilot's statement, during the last 5 years the pilot had flown 50 hours in total on flying sports device as of the accident date; the pilot did not keep a pilot logbook.

1.6 Information about the PG

Type:	FORCE 2M, APCO Aviation LTD
Registration mark:	the PG was not registered
Serial number:	unidentified
Year of manufacture:	unknown
Total flight hours flown:	unidentified
Airworthiness certificate:	not issued
Insurance:	none

FORCE is designed as a high-performance glider with a high speed range in 3 categories - FORCE S, M and L (Small, Medium and Large).
The pilot's weight + the power unit for FORCE M ranges from 100 kg to 165 kg.

1.7 Meteorological information

On 21 September 2019 the sky was almost clear in the area of Nitra, part Zobor, with low clouds type Cumulus Humilis or Cumulus Fractus with the cloud base at 1,500 m. There was no precipitation or other dangerous phenomena during the day.

Air temperature at the top of Zobor was approximately 16.5°C and in Nitra it reached 19°C. Relative humidity was about 35-40%. Horizontal visibility was around 35 km.
The prevailing wind was south to south-east with the speed of 3-5 m/s; at the top of Zobor the wind speed reached 6-8 m/s.

1.8 Aids to navigation

N/A

1.9 Communications

N/A

1.10 Information about the Pyramída-Zobor launch area and landing areas

Launch area: Nitra - Pyramída-Zobor (556 metres above the ground)
Difficulty: difficult - not for beginners.

Launch area coordinates:
48°20'32.84"N, 18° 6'19.12"

Landing areas:
on a meadow between houses, near the cable car bottom station
48°19'59.97"N, 18° 5'52.11"E

On an open area behind a Volkswagen car dealer (ARAVÉR), direction to Drážovce.
48°19'49.87"N, 18° 4'52.22"E

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1.11 Flight recorders

N/A

1.12 Wreckage and impact information

View of the launch area.



1.13 Medical and pathological information

N/A

1.14 Fire

N/A

1.15 Survival aspects

It was not necessary to perform any search or rescue with SAR equipment.

1.16 Tests and research

N/A

1.17 Organizational and management information

N/A

1.18 Additional information

N/A

1.19 Useful or effective investigation techniques

Common investigation methods were applied.

2 ANALYSIS

Pilot activity

During the run-up on the launch area without a power unit the pilot did not reach sufficient prescribed take-off speed for a PG flight while the pilot was already at the end of the launch area.

With regard to insufficient experience of the pilot with such PG category, the pilot did not abort the take-off but continued taking off with insufficient lift on the wing beyond the borderline of the launch area, while the PG fell after leaving the launch area.

The pilot hit a rocky terrain with the seat, losing speed and lift on the wing.

The meteorological conditions were fully suitable for PG flying.

3 CONCLUSIONS / Causes of the aviation accident

3.1 Findings

Pilot

- did not have a valid license which would authorize him to perform PG flights;
- did not have any experience with the PG type in question;
- did not undergo any flying sports device training in any training facility;
- was not a member of LAA SR;
- performed the take-off without a power unit - the run-up without a power unit was not sufficient for the take-off on the launch area in question which is difficult and is not suitable for beginners.

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PG:

- did not have valid documentation;
- did not comply with the airworthiness conditions.

METEO

- The meteorological conditions had no impact on the accident.

3.2 Causes of the aviation accident

The cause of the aviation accident was insufficient run-up during the take-off without a power unit and the failure to abort the take-off (lack of experience of the pilot with flying the PG in a difficult terrain) when approaching the end of the launch area.

4 SAFETY RECOMMENDATIONS

The Final Report on the safety investigation of the aviation accident does not contain any recommendations.

In Bratislava, on 21/11/2019