



**MINISTRY OF TRANSPORT,  
CONSTRUCTION AND REGIONAL DEVELOPMENT  
OF THE SLOVAK REPUBLIC**

Air Accident and Incident Investigation Board  
Nám. slobody 6, P.O. BOX.100, 810 05 Bratislava 15

**Reg. No: SKA2010027**

**FINAL REPORT**

on investigation of an air accident  
of powered hang glider **ANTEA XL / WJ-F200**  
Registration No. **OM-P757 / P-757**

Date: 24.10.2010

Place: municipality of Čečejevce - Seleška, farmland

## A. INTRODUCTION

The investigation of air accident, serious incident, 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, 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, and in accordance with procedures for investigation of causes of air accident in the Light Aircraft Association of the Slovak Republic.

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

The exclusive aim of investigation is to establish causes of an accident or serious incident and 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 the air accident have informative character and can only be used as recommendation for the implementation of measures to prevent occurrence of other air accidents and serious incidents with similar causes.

Operator / Owner:	private person
Type of operation:	general aviation
Type of aircraft:	powered parachute glider ANTEA XL / WJ-F200
Registration No:	OM-P757 / P 757
Take-off site:	farmland Čečejevce - Seleška
Landing site:	farmland Čečejevce - Seleška
Flight phase:	repeated takeoff
Place of accident:	farmland Čečejevce – Seleška, north aircraft turning area

Approximate geographical coordinates of the place of accident:

48°37'24.41" N, 021°04'58.69" E

Date and time of detection of accident: 24 October 2010, 10:00 hrs

Note: All times in this Report are UTC.

## B. INFORMATIVE SUMMARY

During repeated take-off the powered parachute glider ("PPG") touched with its landing gear wheel the wing of powered hang glider ("PHG") parked on the ground. The wing of PHG was damaged. PPG landed without being damaged. Nobody was injured.

An investigation board in the following composition was set up for investigation of the air accident:

Ing. GREGA Milan                      chairman of the Investigation Board

Invited experts and consultants of the Investigation Board:

Ing. OULICKÝ Jaroslav              consultant of the Investigation Board  
Ing. ŠIMKO Martin                    consultant of the Investigation Board

The report is issued by:

Air Accident and Incident Investigation Board  
of the Ministry of Transport, Construction and Regional Development  
of the Slovak Republic

## C. MAIN PART OF REPORT

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

### 1. FACTUAL INFORMATION

#### 1.1 History of the flight

The pilot of PPG was conducting the flight in the urban area of the municipality of Čečejevce for approximately one hour. In the final phase of the flight he was flying near a group of persons and equipment situated in the north aircraft turning area of farmland Čečejevce-Seleška in a low altitude. During the turn by 360° he decided to land approximately in the middle of the turning area, vertically to the asphalt ground – farmland. The course of landing was approximately 90°. In close proximity of the landing direction, left of it, there were persons, vehicles, a wing of PHG parked on the ground, and vehicle of the owner of PHG. After landing, when main landing gear wheels touched the ground, PPG changed its direction to the left. The pilot of PPG increased the engine power and took the aircraft around. During this manoeuvre, just after the repeated takeoff, the landing gear wheel of PPG touched the wing of PHG. The pilot of PPG stabilized the flight and landed without error.

Daytime: Daylight

On 3 November 2010 the air accident was reported to the Air Accident and Incident Investigation Board of the Ministry of Transport, Construction and Regional Development of the Slovak Republic.

#### 1.2 Injuries to persons

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

#### 1.3 Damage to aircraft

The nose D-box of wing and the wing covering of PHG parked on the ground were damaged. The attachment of the PHG wing rib was damaged. PPG was not damaged.



Fig. 1: Wing of Phantom PHG and point of impact of the landing gear wheel



Fig.. 2: Damaged D-box and wing covering of Phantom PHG



Fig. 3: Damaged upper attachment of Phantom PHG wing rib

**1.4 Other damages**

The Air Accident and Incident Investigation Board was not informed about circumstances with potential claims for compensation of other damages toward a third party.

**1.5 Personnel information**

Citizen of the Slovak Republic, aged of 47, holder of PPG pilot licence No. 5-059 issued by LAA SR on 11 March 2008.

Qualifications:

PPG pilot since 11 March 2008 with marked validity of pilot licence until 8 March 2012.

Medical certificate of 2<sup>nd</sup> class issued on 8 March 2010, valid until 8 March 2012.

Flying experience:

Total flight hours:	240:00 hrs
Total flight hours for previous 90 days:	20:00 hrs
Total flight hours for previous 90 days with the glider type:	20:00 hrs
Flight hours on the day of accident (incl. critical flight):	01:00 hrs

**1.6 Information about PPG**

Type: PPG single-seater with landing gear (category FAI-RPL1), type **ANTEA XL / WJ-F200**

Serial No: Parachute glider - 2009-09-11-0645  
 Driving unit – P757

Year of manufacture: PG 2009 / Landing gear 2009

Manufacturer: Parachute glider: SKY PARAGLIDERS, Czech Republic  
 Driving unit: Walkerjet / Halasz

Total flight hours from the year of manufacture: PG 70 h / Driving unit 240 h 00 min.

Certificate of airworthiness valid until 15 November 2011.

**Weight of PPG at the time of air accident:**

Empty weight of PPG (PG 5.6kg+driving unit 27kg+landing gear 17.5kg)	50.1 kg
Weight of crew	110.0 kg
Weight of crew outfit	2.5 kg
Fuel	5.8 kg

---

Total weight of PPG at the time of accident: **168.4 kg**

Maximum permitted take-off mass of PPG according to the flight manual is **169 kg**.

Weight of PPG at the time of accident was within the permitted range.

### 1.7 Meteorological situation

	10:00 a.m. <sup>1)</sup>	10:00 a. m. <sup>2)</sup>	<sup>3)</sup>
		---	---
Wind (direction/speed)	140 <sup>0</sup> / max. 1m/s	Variable, max. 1m/s	---
Cloudiness	8/8 v 5000ft	8/8	---
Temperature/Pressure	8 <sup>0</sup> C / 1015hPa	---	---

1) Data according to LZKZ

2) Data according to witnesses

### 1.8 Aids to navigation

Not applicable.

### 1.9 Communications

Not applicable.

### 1.10 Information about take-off site

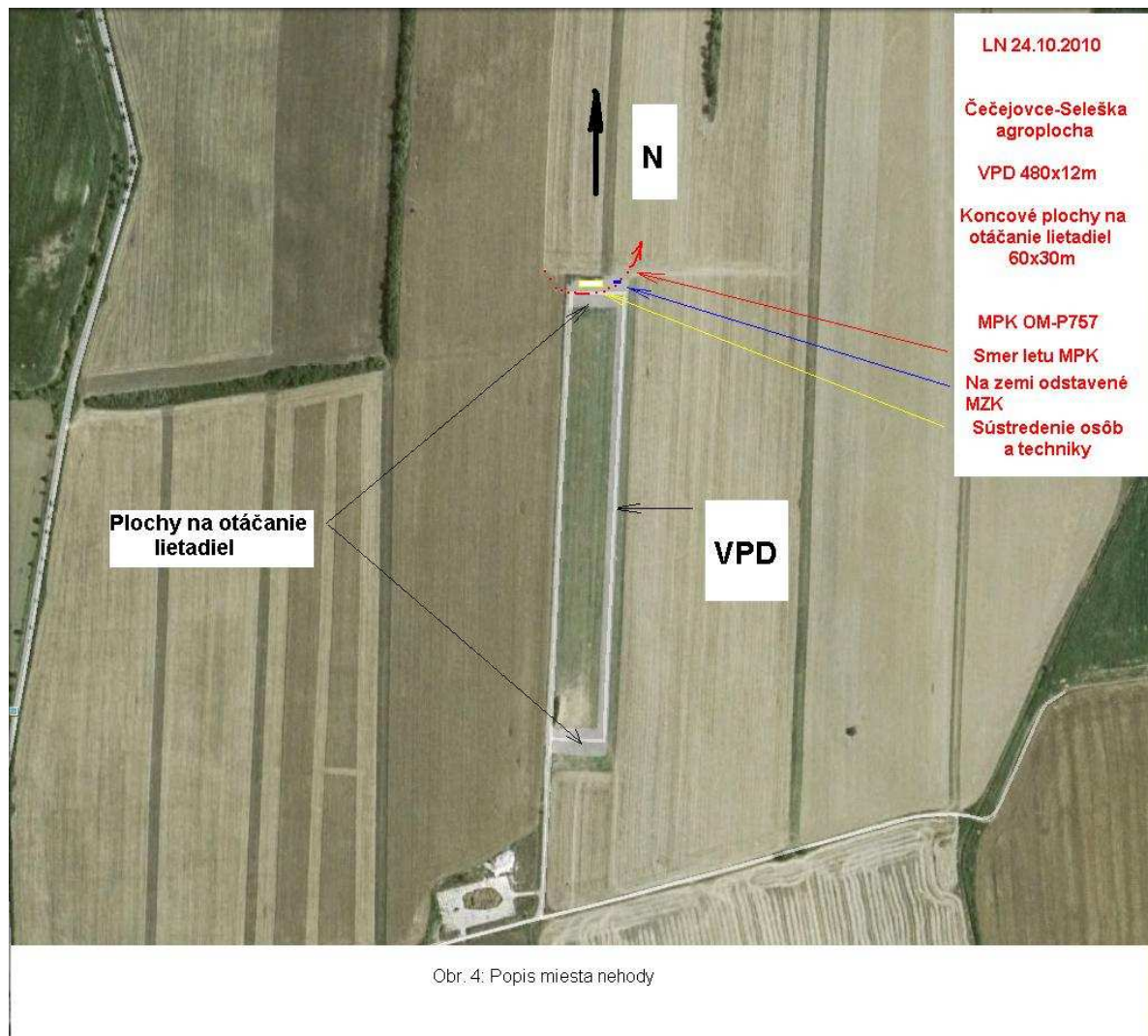
The PPG takeoff site is situated near the municipality of Čečejevce – Seleška on a ground used for air chemical activity of aircraft. The ground is bituminous, with length of 480 m and width of 12 m. On both ends of the runway there are bituminous aircraft turning areas connected to the runway with dimensions of 60x30m.

### 1.11 Flight recorders

Not applicable.

### 1.12 Wreckage and impact information

The place of accident is situated in the north aircraft turning area of farmland Čečejevce – Seleška. Due to the impact the wing of PHG parked on the ground turned by 30° against the initial parking position. The wheel of PPG hit the right half of the wing (its nose section, approximately in the middle of the length of the nose D–box).



### 1.13 Medical and pathological information

Not applicable.

### 1.14 Fire

Not applicable.

### 1.15 Survival aspects

Search and rescue were not required.

After the accident the pilot got out of PPG without injury.

### 1.16 Tests and research

Tests and research beyond standard basic investigation methods were not required.

### 1.17 Organizational and management information

Not applicable.

### 1.18 Additional information

**A)** In his statement the pilot indicated that after the first contact of PPG with the ground the its flight path changed (the aircraft nosed to the space of the vehicle parked on the ground), so he decided to take the aircraft around. After takeoff he felt impact and vibrations of PPG. He stabilized it and landed on grass near the aircraft turning area.

- B) The witness stated that the pilot of PPG was making the flight in turn in very low altitude and landing on bituminous aircraft turning area. Its direction changed and the witness made a dash for parked vehicles to hide himself.
- C) The witness stated that after the first contact of PPG with the ground the direction of ground roll of PPG changed – it steered toward his car parked on the ground. Afterwards the pilot gave gas and took the aircraft around, whereby the wheel of PPG touched the wing of PHG.
- D) The Aviation Act of SR 143/1998, Coll., as amended, in Art. 5 (1) provides: "The flight must be conducted in a manner not to endanger the safety of passengers and crew, other aircraft, persons and property on the ground and to ensure the protection of the environment before noise and emissions by pollutants from aircraft."
- E) The Aviation Act of SR 143/1998, Coll., as amended, in Art. 20 (1) provides: "The commander is a pilot who is responsible for the condition and airworthiness of the aircraft and for the preparation and conduct of a flight."
- F) The Directive LZ-2PPG- Requirements for airworthiness of Sport Flying Vehicles issued by LAA SR in Title 6 par. 6.1.2 Basic operating rules, letter b) provides: "Every persons who carries out an activity related to the operation of powered parachute glider on the ground or in the air shall exclude to the maximum extent the possibility of causing material or other damage to uninterested persons by his activity."
- G) The farmland Čečejevce – Seleška is surrounded by lowland without any obstacles and allows safe takeoffs and landings, also outside of bitumenous areas of the farmland.
- H) The Directive LZ-1- Flight Operation of SFV, issued by LAA SR, provides:
  - Title 3, paragraph 3.1.2 – "During flight it is prohibited to fly over obstacles or groups of persons in an altitude that does not allow safe landing without exposure of the pilot, persons and property on the ground to the risk in the event of danger."
  - Title 3, paragraph 3.1.3. "The pilot is obliged not to permit, particularly during flight, airmiss of other SFV or aircraft by parachutists and obstacles."
  - Title 3, paragraph 3.2.1.2. Avoidance and flight distances: "Pilots of gliders who are obliged to avoid other flying vehicles shall maintain the minimum distance of 30 m in the transversal, longitudinal and vertical direction from the other glider."
  - Title 3, paragraph 3.2.3. "The landing with gliders shall be conducted in the determined site. If landing in the determined site is impossible or the landing site is not determined, the pilot is responsible for selection of the landing site. In his choice of the landing site he shall take into account his own safety and safety of third parties."
- I) The farmland Čečejevce – Seleška is situated in the area of TMA 1 Košice with altitudinal limits 1000ft / 300m AGL and FL125. The pilot of PPG registered this information.
- J) The damaged PHG, identification No. OM-H036, category FAI – RWL-1, type Phantom / Fly Engine, holds the certificate of airworthiness issued by LAA SR on 2 June 2010, valid until 15 June 2011. The owner of PHG is member of LAA SR. The verification of aviation personnel records showed that LAA SR had not issued a pilot licence to the name of the owner of PHG.

### 1.19 Useful or effective investigation techniques

Standard investigation methods were used.

## 2. ANALYSIS

The pilot of PPG started about 09:00 hrs from the farmland Čečejevce – Seleška. He was conducting a flight during 1 hour in the vicinity of this farmland. The meteorological conditions were favourable and did not negatively affected the flight. The final phase of the flight was conducted in a low altitude in the proximity of concentrated persons and equipment near the farmland. Immediately after the turn he landed with the PPG on the aircraft turning area in close vicinity of concentrated persons and equipment. After the first touch of PPG with the



ground, most probably by action of inertial force from PPG parachute that probably did not stabilize in the straight direction due to the unfinished turn, this force was transferred to the PPG landing gear which changed direction of ground roll to the left. The pilot of PPG registered obstacles in front of him, increased the engine power and took the PPG around. But at that moment the PPG landing gear wheel touched the wing of PHG parked on the ground. The pilot stabilized the vibrations of PPG after the impact and then landed on grass ground near the turning area. The pilot of PPG was conducting the first ground landing when distances between PPG and obstacles decreased much below 30 m.

### **3. CONCLUSIONS / Cause of air accident**

#### **Main cause of accident:**

Flight in close proximity of obstacles.

#### **Contributing causes:**

Landing in the phase of unfinished turn.

### **4. SAFETY RECOMMENDATIONS**

On the basis of investigation of causes of the air accident of PPG type **ANTEA XL / WJ-F200**, registration No. **OM-P757**, that occurred on **24 October 2010**

We recommend the implementation of the following measures:

1. Publication of results of investigation on the website of LAA SR
2. Analysis of air accident at the level of LAA SR (managed by the Air Operations Director) with special stress on the analysis of provisions of the Directive LZ-1, Title 3 – Flight Rules. The analysis should be conducted as a part of regular training of instructors and inspectors of LAA SR in spring 2011.
3. To inform about causes of the accident through the Bulletin of LAA SR in printed and electronic form.
4. The Air Operations Director of LAA SR in cooperation with Chief Inspector of the Powered Paragliding Association will examine the matters indicated in supplementary information in paragraph 1.18. letters D,E,F,G,H and J of this report.

Prešov, 21 February 2011