

*The original of the Final Report was issued in the Slovak language.
In case of inconsistency original version in Slovak language is applicable.*



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

FINAL REPORT

on investigation of accident
of gliders type **LS8-18** and **Standard Cirrus**
Registration No. **SP-3893** and **OK-3712**

Reg. No.: **SKA2016001**

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

Glider type:	LS8-18	Standard Cirrus
Registration No.:	SP-3893	OK-3712
Operator / Owner:	Przemyslaw Bartczak	Michael Fík
Type of operation:	general aviation / sport and recreational flying	
Take-off site:	Aerodrome Nitra / LZNI	
Flight phase:	manoeuvring in uplift current	
Place of accident:	residential area of city Nitra - Zobor N 48°19'28", E 018°05'23"	
Date and time of accident:	02.04.2016, 10 h 59 min	

Note: All time data in this report are indicated in UTC.

B. INFORMATIVE SUMMARY

On 2 April 2016 during the flight day of the International Gliding Competition Pribina Cup 2016 in Nitra (hereinafter "Pribina Cup 2016"), in the phase of manoeuvring in common uplift current in the right-hand turn the gliders type LS8-18, Registration No. SP-3893 (hereinafter "SP-3893") and Standard Cirrus, Registration No. OK-3712 (hereinafter "OK-3712") collided.

The pilot with damaged glider SP-3893 landed at the aerodrome LZNI.

The pilot of glider OK-3712 was forced to abandon the aircraft and landed with a parachute in the residential area of city Nitra - Zobor. The glider OK-3712 landed on the roof of a family house.

The following commission was appointed for investigation of the air accident:

Ing. Igor BENEK – chairman of investigation commission
Ing. Dominik JANČIK – member of investigation commission

The report is issued by:

Aviation and Maritime Investigation Authority
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

On 2 April 2016 at 08:00, during the daily briefing of Pribina Cup 2016 the pilots were informed about development of weather and occupation of the airspace and received the competition flight plan from the organiser of competition.

The competition takeoffs of gliders started at 10:30. At 10:59, in the climbing phase, before departure for the route, in altitude of 800 m above ground level, the gliders SP-3893 and OK-3712, manoeuvring in the common uplift current in the right-hand turn in mutual superposition with other gliders, collided.

The gliders approached each other so that the right wing of the upper glider SP-3893 collided with the cabin of the lower glider OK-3712 and the central part of its fuselage collided with the left wing of the lower glider OK-3712.

After the collision the glider OK-3712 got into an unusual position – it turned over on its back. The pilot was forced to abandon the glider and, slightly injured, landed with a parachute between family houses in the residential area of city Nitra - Zobor. The uncontrolled glider crashed on the roof of a family house, turned over on its back. The pilot was transported by an ambulance to the hospital for treatment.

The pilot of glider SP-3893 with damaged glider safely landed at the aerodrome LZNI uninjured.

The competition day was cancelled by the organiser of the competition.

Local inhabitants reported the accident to the rescue services and the organiser of competition; the latter reported it to the Aviation and Maritime Investigation Authority of the Ministry of Transport, Construction and Regional Development of SR.

Daytime: day

Flight rules: VFR

1.2 Injuries to persons

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

1.3 Damage to gliders

Glider SP-3893:



- Seriously damaged right wing



- Lightly damaged left wing



- fuselage damaged in the centre-wing section.

Glider OK-3712 was destroyed in the accident:

- Seriously damaged left wing
- Damaged right wing
- Broken fuselage in the tail section
- Broken horizontal rudder
- Destroyed cockpit canopy.

1.4 Other damage

The crashed glider OK-3712 caused damage to the property of third parties. The house owner will claim damages from his own insurance company and refused compensation from third-party insurance of the glider.

1.5 Personnel information

Pilot of glider SP-3893:

A national of Poland, aged of 45 years,
Holder of the glider pilot (GPL) licence issued by Urzad Lotnictwa Cywilnego on 4 March 2014.

Flying experience:

Total flight hours with type LS8-18: 821 h 36 min and 244 flights
Total flight hours in 2016: 15 h 13 min and 4 flights

Medical certificate of 2nd class with marked validity until 28.03.2017.

Pilot of glider OK-3712:

A national of the Czech Republic, aged of 44 years,
Holder of the glider pilot (GPL) licence issued by the Civil Aviation Authority of CR on 22 October 2008 with marked validity until 22.10.2018.

Qualifications:

GLD, FI(GLD) with marked validity until 31.12.2017

Flying experience:

Total flight hours: 988 h 52 min

Medical certificate of 2nd class with marked validity until 21.07.2016.

1.6 Information about gliders

Type: **LS8-18**
Registration No. : SP-3893
Serial number: 8134
Year of manufacture: 1997
Manufacturer: Rolladen Schneider Flugzeugbau GmbH

Total operating hours since manufacture: 1561 h 47 min and 471 flights

Certificate of airworthiness No. 3863, issued by ULC Polska on 13.10.2014.

The verification of airworthiness was conducted on 27.11.2015 and is valid until 26.11.2016.

Type: **Standard Cirrus**
Registration No. : OK-3712
Serial number: 643
Year of manufacture: 1975
Manufacturer: Schempp-Hirth Flugzeugbau GmbH

Total operating hours since manufacture: 3773 h 03 min

Certificate of airworthiness No. 4083/1, issued by the Civil Aviation Authority of CR on 01.05.2008 valid until 18.02.2017.

1.7 Meteorological situation

Clear sky, clouds 1-2/8, wind 5 m/s from direction 150°, visibility above 10 km. The weather did not influence the occurrence of accident.

1.8 Aids to navigation

N/A.

1.9 Communications

The gliders were equipped by radio communication equipment allowing the two-way radio communication with all air stations at every moment.

1.10 Aerodrome information

N/A.

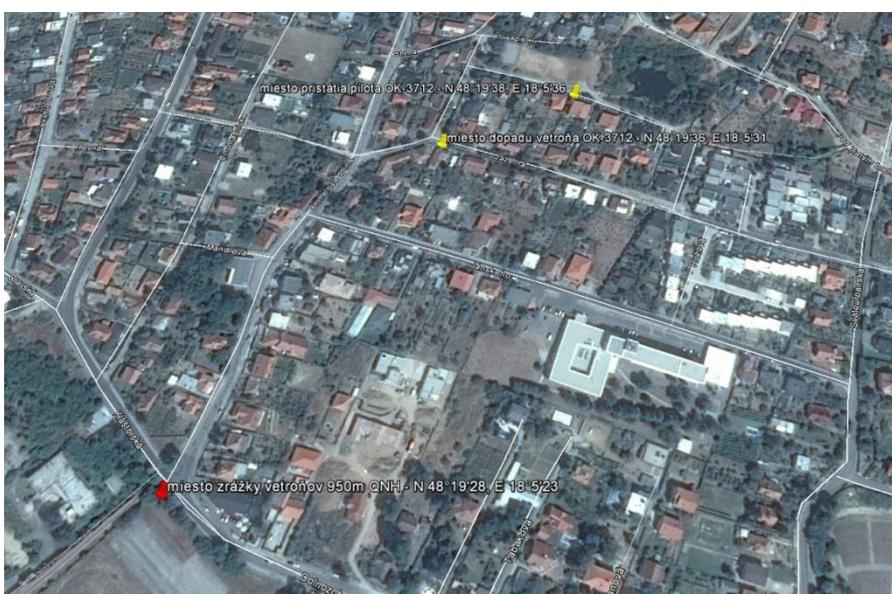
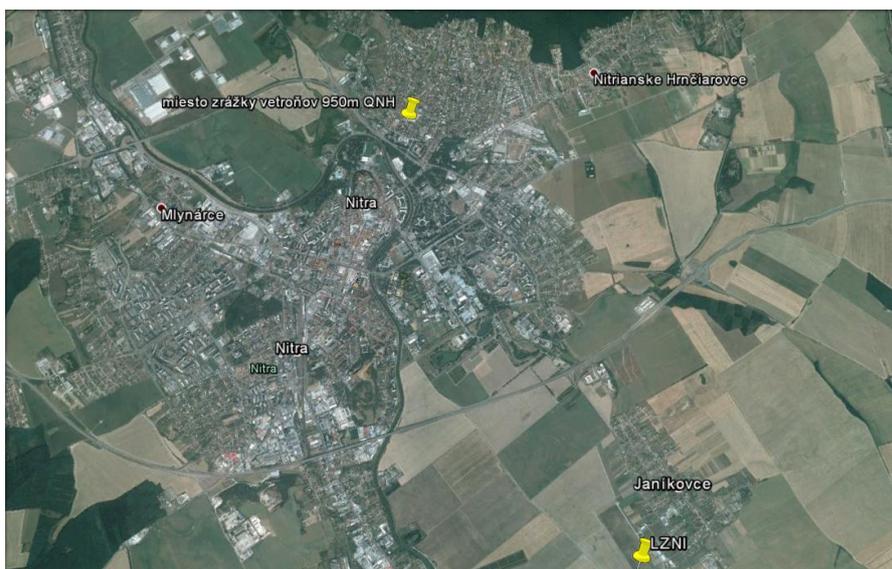
1.11 Flight recorders

Both gliders were equipped by flight recorder (FR) type approved by IGC FAI for validation of gliding performance. The flight recorder of glider SP-3893 was evaluated by the expert commission, the flight recorder of glider OK 3712 could not be found after the collision of gliders.

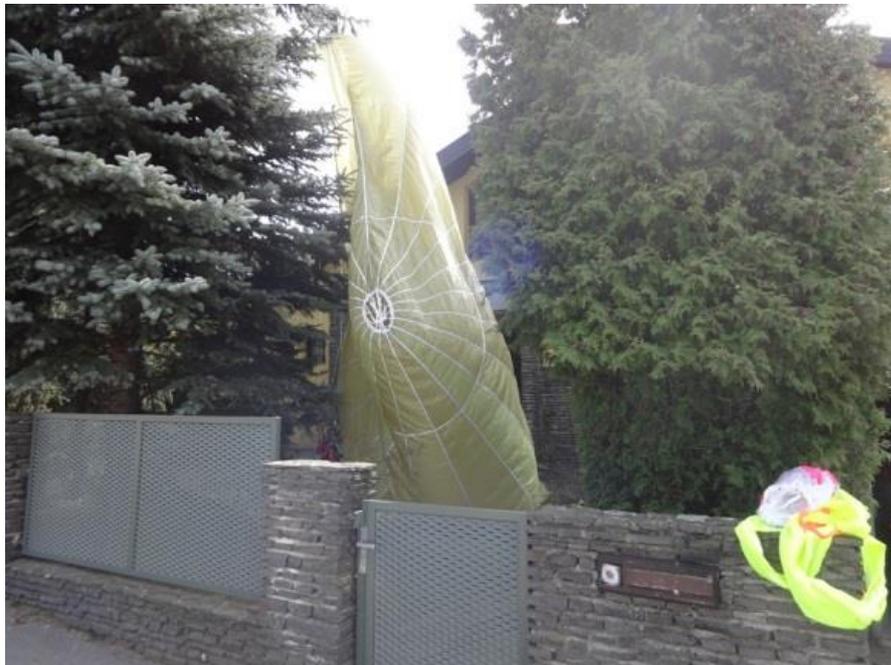
In addition, the glider SP-3893 was equipped by device type FLARM (Traffic and Collision Warning for General Aviation) displaying close traffic and serving for visual and acoustic warning of approaching aircraft.

1.12 Wreckage and impact information

The glider OK-3712 crashed in the residential area of city Nitra – Zobor, on the roof of a family house on Jazerná street (N 48°19'36", E 18°5'31"). The pilot abandoned the glider and landed in a garden of family house about 120 m away from the place of impact of the glider (N 48°19'38", E 18°5'36").







1.13 Medical and pathological information

The pilot of glider OK-3712 suffered light injury of nose in the collision of the wing with the cabin of glider and was transported by an ambulance to the hospital for treatment.

1.14 Fire

No fire broke out.

1.15 Survival aspects

The search and rescue operations by SAR means were not required.

1.16 Tests and research

It was not necessary to perform tests or inspection of glider segments.

1.17 **Organizational and management information**

The flight operation was performed in accordance with aeronautical standards valid in the territory of the Slovak Republic and local regulations.

The competition was organized in accordance with the FAI Sporting Code, General Section, FAI Sporting Code, Section 3 Gliding, issued in October 2014, and with its amendments.

1.18 **Additional information**

N/A.

1.19 **Useful or effective investigation techniques**

Standard investigation techniques were used.

2. **ANALYSIS**

Activity of pilots

Gliding in a common uplift current requires from the pilots full attention and continuous verification of mutual position to the other gliders. The pilot should not underestimate safe mutual distance or rely on the fact that the pilot of the other glider can see him.

Before collision the pilots of gliders circled in common uplift current, making right-hand turns. Due to their mutual superposition they could not see each other, as results from their statements.

Just before the collision the pilot SP-3893 went with its glider into a slight descent, where he increased the speed and probably come close to the glider OK-3712.

At that moment the leading edge of the right wing of glider SP-3893 came into contact with the cabin of glider OK-3712 and the central part of glider SP-3893 with the left wing of glider OK-3712, as confirmed by damage to both gliders. The pilot of OK-3712 indicated in his statement that he was not aware of the proximity of glider SP-3893; he only realized it when both gliders collided. The activity of the pilot of OK-3712 could not be evaluated on the basis of the flight recorder, because after collision it got lost during a flight in the free space.

Contributory factor of the accident was the fact that the glider SP-3893 flying higher had larger area load thanks to water ballast and therefore climbed slower than glider OK-3712, which flew under it without water ballast and therefore could climb faster.

3. **C O N C L U S I O N S / CAUSE OF ACCIDENT**

3.1 **Findings**

Pilots

- According to submitted documentation the pilots had valid qualifications for flights with given type of aircraft,
- The pilots had sufficient flying experience for performance of competition flights.

Gliders

The gliders had valid documentation and did not show any fault before the accident.

3.2 Causes of air accident

- Incorrect mutual position of circling gliders in view of the field of vision of the pilots;
- The immediate cause of accident was collision of the gliders.

4. SAFETY RECOMMENDATIONS

On the basis of investigation of the accident

Gliders type **LS8-18** and **Standard Cirrus**
Registration No. **SP-3893** and **OK-3712**

Date of accident: 02.04.2016

We recommend the implementation of the following safety recommendations by:

Slovak National Aeroclub :

At regular winter trainings to analyse the accident with aviation personnel, with stress on compliance with procedures and priority rules in drawing into position, circling, abandonment of uplift currents and avoiding during flight.

Transport Authority of SR:

When issuing a decision – permit for organisation of public aviation event (“glider competition”) to recommend the organiser in case of planned increased air traffic to require the use of device FLARM (Traffic and Collision Warning for General Aviation – visual and acoustic warning of approaching aircraft) displaying close traffic.

Bratislava, 13.07.2016