



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

Aviation and Maritime Investigation Authority  
Nám. slobody 6, P.O.BOX 100, 810 05 Bratislava 15

Reg. No. SKA2012013

## FINAL REPORT

on investigation of air accident  
of glider **Standard Cirrus**  
registration No. **OM - 7274**

Date: 07.08.2012

Place: community of Zázrivá

## 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 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 Air Accident and Incident Investigation to the Convention on International Civil Aviation.

The exclusive aim of investigation is to establish causes of accident, serious 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 the air accident in question have an 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.

Type of glider:	Standard Cirrus
Registration No.:	OM - 7274
Operator:	SNA gen. M.R. Štefánika
Owner:	Tibor Noga
Takeoff site:	Airport Prievidza / LZPE
Planned landing site:	LZPE
Flight phase:	competition flight – ground landing
Place of accident:	community of Zázrivá N 49°16'35'', E 019°08'43''
Date and time of accident:	07.08.2012, 11 h 57 min

Note: All time data in this report are stated in the UTC time.

## B. INFORMATIVE SUMMARY

On 7 August 2012 at 11:57 during the third flight day of the 55th Slovak Gliding Championship in Prievidza (hereinafter „55th PMSR 2012“), the pilot with glider Standard Cirrus, registration No. OM – 7274, made a forced ground landing near the community of Zázrivá.

Due to the hard landing, the pilot was injured and transported to the hospital in Dolný Kubín.

The air accident was reported by the Rescue Coordination Centre (RCC) Bratislava to the district police department in Dolný Kubín and by the organizer of the competition to the Aviation and Maritime Investigation Authority of the Ministry of Transport, Construction and Regional Development of the Slovak Republic.

The following persons were appointed for investigation of the air accident:

Ing. Ján CHUDÝ – chairman of the investigation commission  
Ing. Igor BENEK – member of the 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

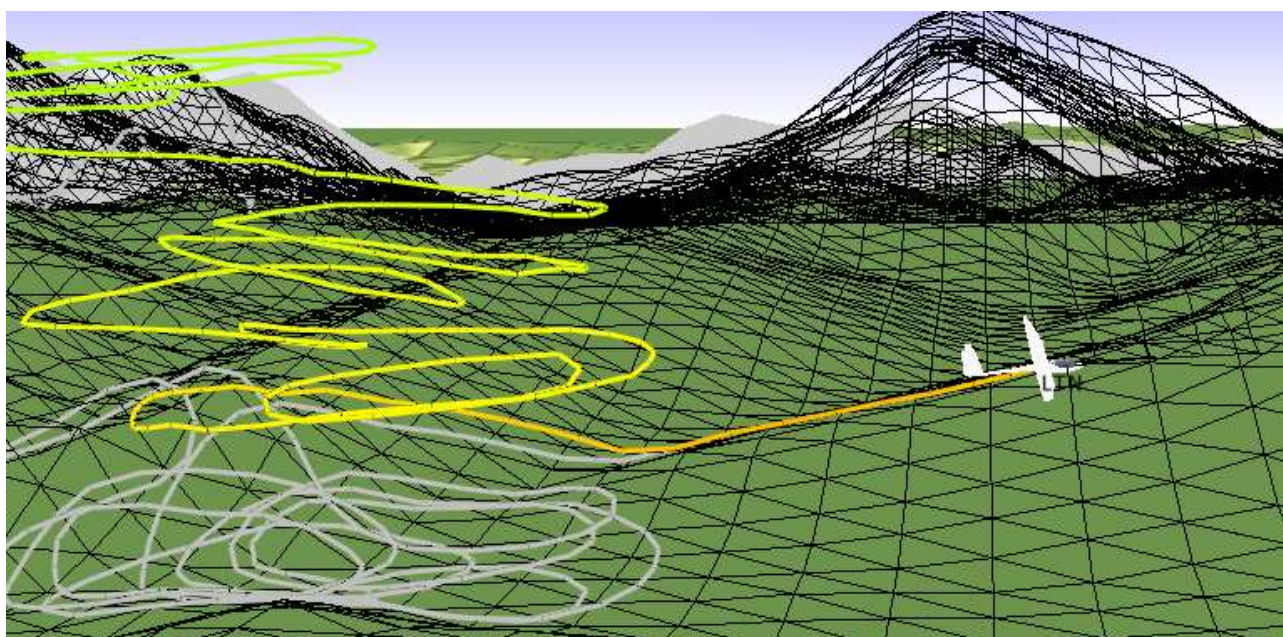
#### 1.1 History of the flight

On 7 August 2012, while accomplishing the competition task, the pilot of glider **Standard Cirrus**, registration No. OM - 7274 (competition sign „**LNT**“), due to an insufficient height, was unable to reach the sector from the first turning point (altitude of 356 m), which was the community of Zázrivá, so she decided to turn sooner and continue the flight in the west direction to the sunny side of the mountain in the effort to find an updraft. She reached a narrow and deep valley, but she was unable to achieve the required height to continue the flight and so she decided to make a ground landing on the selected surface near the community of Zázrivá. She ended the landing manoeuvre, 3rd turn, in an altitude of 735 m (108 m AGL), dropped the landing gear, ended the 4th turn in an altitude of 687 m (61 m AGL) and started the final approach on a course of 010° (wind 360° 7 kt), approaching with a speed of  $V_{APP} = 127$  km/h. In the final phase of landing the pilot landed with front wind, landing gear down at a low speed, on the surface with upward longitudinal slope. After the hard landing of the glider the pilot broke the tilting canopy of the Plexiglass cockpit with her head. The glider jumped off and after repeated contact with the ground turned to a course of 270°.

After the landing the pilot immediately called an ambulance and informed about the glider landing the organizer of the 55th PMSR 2012.

Daytime: day

Flight rules: VFR





## 1.2. Injuries to persons

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

## 1.3. Damage to glider

**Glider Standard Cirrus** – After the forced landing the Plexiglass tilting canopy of the cockpit was broken (fig.1), the tail skid shoe (fig. 2) and dashboard hinges (fig. 3) came off and the dashboard was bent (fig. 4). The rear lower pipe of the rodding in the rear suspension of the landing gear was bent (fig. 5) and the front knuckle bearing on the left side of fuselage was broken (fig. 6). The windtip skid on the right wing came off (fig. 7), the lower left wing cover, about 1 m away from the wing end, was scratched (fig. 9) and the horizontal rudder fairing showed cracks (fig. 8).



fig. 1



fig. 2

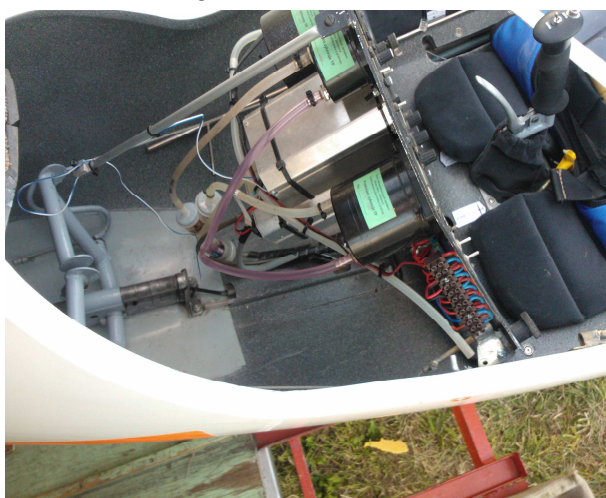


fig. 3



fig. 4





fig. 5



fig. 6



fig. 7



fig. 8



fig. 9

#### 1.4 Other damage

No circumstances with potential claims for compensation of other damage toward a third party were notified to the Aviation and Maritime Investigation Board.

#### 1.5 Personnel information

A national of SR, aged of 32 years,

holder of the aviation personnel licence GPL No. SK01010419, issued by the Civil Aviation Authority of SR with marked validity until 31.12.2020.

##### Qualifications:

Glider (GLD) pilot licence with marked validity until 31.12.2012,

Glider flight instructor (FI(GLD)) licence with marked validity until 31.12.2014.

##### Flying experience:

Total flight hours: 698 h 09 min and 764 flights

In it on the date of accident: 2 h 19 min and 1 flight

Medical certificate of 2nd class with limitation of VDL, issued on 26.03.2009, with marked validity until 26.03.2014.

#### 1.6 Information about glider

Type: **Standard Cirrus**

Registration plate: OM - 7274

Serial No: 412

Year of manufacture: 1974

Manufacturer: Shempp-Hirth Flugzeugbau GmbH, Kirchheim/Teck, SRN

Total operating hours since manufacture: 3 505 h 43 min and 1 214 flights as at 07.08.2012.

The glider was put into operation on 17.10.2011 by issue of the certificate of airworthiness No. 1082/01 and the certificate of incorporation in the aircraft register of the Slovak Republic No. 1082/01 of 17.10.2011, issued by the Civil Aviation Authority of the Slovak Republic. The certificate of verification of airworthiness No. 1082/01 with marked validity until 12.10.2012.

##### **Calculation of glider weight at the time of air accident**

Empty weight of glider	231.3 kg
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Weight of crew + equipment	84.5 kg
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<u>Weight of wate ballast: approximately 0 l x 0.999 kg/l</u>	<u>0.0 kg</u>
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Total weight of glider at the time of accident	<b>315.8 kg</b>
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The maximum permitted takeoff weight of glider 340 kg was not exceeded during the flight.

#### 1.7 Meteorological information

On the critical day the territory of SR was influenced by undulating cold front above East Slovakia.

Weather conditions on the site of air accident at the critical time: no precipitation, 3/8 – 4/8 Cu, visibility above 18 km. Surface wind, wind direction of 360°, wind speed up to 7 kt.

##### Weather at LZPE:

METAR LZPE 071100Z 30007KT 210V020 9999 FEW060 26/08 Q1021=

METAR LZPE 071200Z 25007KT 200V300 9999 FEW066 27/09 Q1021=



#### Weather at LZZI:

METAR LZZI 071130Z 25009KT 210V300 9999 SCT053 24/09 Q1021=

METAR LZZI 071200Z 30007KT 260V340 9999 SCT055 24/10 Q1021=

METAR LZZI 071230Z 27009KT 220V300 9999 SCT055 25/10 Q1021=

The critical flight of glider Standard Cirrus was made in conditions that can be characterized as stable weather without precipitation, with excellent visibility and without meteorological phenomena likely to negatively influence the flight of the glider.

#### 1.8 Aids to navigation

The glider was equipped for VFR flights.

#### 1.9 Communications

The glider was equipped by board radio station enabling two-way communication with all air stations at every moment of the flight.

#### 1.10 Information about airport

Not specified

#### 1.11 Flight recorders and other recording systems

The glider **Standard Cirrus „LTN“** was equipped by device LX 20 (IGC approved GNSS flight recorder) and device IMI GLIDING ERIX (IGC approved GNSS flight recorder).

#### 1.12 Wreckage and impact information

The place of accident is described by the coordinates N 49°16'35''; E 019°08'43''.

The glider remained in one piece and was damaged after the air accident.









### 1.13 Medical and pathological information

As the pilot complained of back pain, she was transported to the hospital in Dolný Kubín for medical examination, which confirmed a thoracic vertebra compression fracture.

### 1.14 Fire

No fire broke out.

### 1.15 Survival aspects

The rescue operations in the area of accident were activated by the organizer of the 55th PMSR 2012 via RCC Bratislava, which reported the air accident to the district police department in Dolný Kubín.

After landing the pilot immediately called an ambulance and waited in the cockpit until its arrival, because she feared that her backbone was injured. She informed about the glider landing the organizer of the 55th PMSR 2012 by telephone.

### 1.16 Tests and research

No tests or research were required.

### 1.17 Organizational and management information

The flight operations were carried out in accordance with flight regulations valid in the territory of the Slovak Republic. The 55th PMSR 2012 was organized in accordance with Sporting Code – General Part and Part 3, Amendment „A“ to the Sporting Code Part 3, and the local rules of the 55th PMSR 2012.

### 1.18 Additional information

The glider **Standard Cirrus „LTN“** was equipped by device LX 20 (IGC approved GNSS flight recorder) and device IMI GLIDING ERIX (IGC approved GNSS flight recorder). Data from flights of the respective competition day stored in the flight recorder of the glider were evaluated by the organizer of the 55th PMSR 2012.

### 1.19 Useful or effective investigation techniques

Standard investigation methods were used.

## 2. ANALYSIS

### 2.1. Flight history

The ground landing of gliders requires the inspection of the chosen landing place by pilots. In addition to its orientation to wind, the selection of the landing area must take into account its surface, gradient, strength and type of vegetation cover. Landing on relatively unknown ground, about which the pilot is only informed by a cursory look, puts high psychological demands on the pilot. All these factors, including the change of surface wind speed and orientation and surface unevenness often cause damage to gliders.

The pilot of glider **Standard Cirrus „LNT“** did not achieve the required height to continue the flight in the sector from the first turning point, which was the community of Zázrivá. The pilot headed to an area where she expected to find an updraft. However, during the search, she could not find any updraft and the glider continuously lost the flight altitude.

In this flight phase the glider was situated in a narrow and deep valley, so the pilot decided, also because of the low altitude, to make a forced ground landing with upward longitudinal slope near the community of Zázrivá. The glider hard landed on the ground; the glider was damaged and the pilot injured.

### 3. CONCLUSIONS / CAUSE OF AIR ACCIDENT

#### 3.1 Findings

According to submitted documentation, the pilot of glider **Standard Cirrus „LNT“** had valid qualifications for flights with aircraft of this category.

The pilot had sufficient flight experiences for competition flights.

At the time of air accident the pilot was no under the influence of alcohol, drugs or common medicines which might have decrease her attention during the flight.

#### 3.2 Cause of air accident:

The pilot of the glider made it up to a narrow and deep valley. However, she only found there a descent and limited conditions for the selection of landing surface.

The pilot did not master the flying technique of ground landing on a surface with upward longitudinal slope.

### 4. SAFETY RECOMMENDATIONS

On the basis of investigation of causes of the air accident of

glider **Standard Cirrus**  
registration No. **OM - 7274**  
date of accident: **07.08.2012**

we recommend:

SNA gen. M.R. Štefánika

- to familiarize the flight personnel with the air accident;
- before the beginning of the flight day to put stress on the observance of planned tasks and issued safety instructions for timely selection of suitable ground landing surfaces.

Bratislava, 05.09.2012