



# 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.: SKA2011009

## FINAL REPORT

on investigation of air accident  
of aircraft type **ASW 20**  
registration **OM - 1111**

Date: 23.07.2011

Place: LZZI RWY 24

## A. INTRODUCTION

The investigation of air accident [AA], serious incident [SI], 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.

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.

Operator / Owner:	SNA gen. M. R. Štefánika / physical person
Type of operation:	general aviation
Type of aircraft:	ASW 20
Registration:	OM - 1111
Take-off site:	airport LZZI RWY 24
Flight phase:	tow flight take-off
Place of accident:	RWY 24 LZZI
Date and time of accident:	23.07.2011, 10:41

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

## B. INFORMATIVE SUMMARY

On 23 July 2011 at 09:41, during the start of tow flight, the crew of glider ASW 20, registration. OM-1111, made the start by towing. During the start the glider crashed after the glider had been detached from the towing rope by the pilot. The reason for detachment was the inability of the pilot to master a flight behind the towing aircraft after he had detected that the glider was uncontrollable. Subsequently, after multiple impacts and bounces on RWY 24, the glider fell to the ground under a steep angle behind the threshold of RWY 06 at the airport LZZI. The glider suffered substantial damage.

The glider crew members were minor injured.

Person appointed for investigation of the air accident:

Jaroslav JUSZCZUK

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

On 23 July 2011 at 09:41, during the flight preparation conducted by VLP AK Žilina, the pilot of towing aircraft and the pilot of glider (owner of glider), the pilots agreed to make a tow flight start. During the start from RWY 24 of LZZI the crew of glider ASW 20, registration. OM-1111, and the crew of towing aircraft Z-226MS, registration OM-MPY, made the start by towing.

During the start the glider crashed after the pilot had detached the glider from the towing rope of the towing aircraft. The reason for detachment during acceleration and climbing was the inability of the pilot to master a flight behind the towing aircraft after he had detected that the glider was uncontrollable. According to the pilot's statement, the glider started to climb uncontrollably in the climbing phase, to which the glider had not reacted after adjustment of height behind the towing aircraft. The pilot of glider decided to terminate the start by detachment of the towing rope. Subsequently, after multiple impacts and bounces on RWY24, the glider fell to the ground under a steep angle behind the threshold of RWY 06 at the airport LZZI.

The glider suffered substantial damage.

The flight history was established on the basis of statements of the glider crew members, towing aircraft crew members and witnesses, and the camera recording of the airport operator.

Before the start the glider was put together by the pilot. The pilot did not specify the method of putting together the glider. The pilot of glider and the pilot of towing aircraft said that it had been the first tow flight of the affected glider on that day. From the start record it follows that the pilot probably forgot to connect the elevator control rod.

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 aircraft

The glider ASW 20 remained in one piece after the air accident. The glider was taken apart on the place of impact and the scope of damage was documented.



### 1.4 Other damages

Damages to two runway threshold lights on the threshold of RNW 06 at LZZI, torn off by the right glider wing, were documented.

### 1.5 Personnel information

#### Pilot of glider:

Citizen of the Slovak Republic, aged of 60;

holder of aviation personnel licence GPL(A) No. SK 01000219, issued by the Civil Aviation Authority of SR on 09.06.2004, with marked validity until 09.06.2013.

Medical certificate of 2<sup>nd</sup> class with marked validity until 05.05.2012.

#### Qualifications:

GLD with marked validity until 31.12.2012  
FI (GLD) with marked validity until 31.12.2013.

#### Flying experience:

The pilot has had flying experience since 1985 and qualifications for flying ASW 20 since 2010.

Total flight hours:

With a glider:	2080 hours	2,000 flights
For the last period:	67 hours	30 flights
with ASW 20:	67 hours	30 flights

#### Pilot of towing aircraft:

Citizen of the Slovak Republic, aged of 65;

holder of aviation personnel licence PPL(A) No. SK 02980276 issued by the Civil Aviation Authority of SR on 20.12.2010, with marked validity until 20.12.2015.

Medical certificate of 2<sup>nd</sup> class with marked validity until 12.05.2012.

#### Qualifications:

SEP(L) with marked validity until 31.08.2011.  
Qualification: glider towing.

## 1.6 Aircraft information

### Airframe:

Type: ASW 20  
Registration: OM-1111  
Serial No: 20104  
Year of manufacture: 1982  
Manufacturer: A. Schleicher OHG SRN.

Certificate of airworthiness No. 0706, issued by the Civil Aviation Authority of SR on 09.10.2008.

Certificate of verification of airworthiness No. 0706/03 – 265/10 with marked validity until 07.10.2011.

Total flight hours: 1370 h  
Total number of take-offs: 759 h  
Number of flights since the last inspection: 100 h 28 take-offs  
Release into operation: No. 061/2010, date: 08.10.2010, 1280 hours, 728 take-offs.

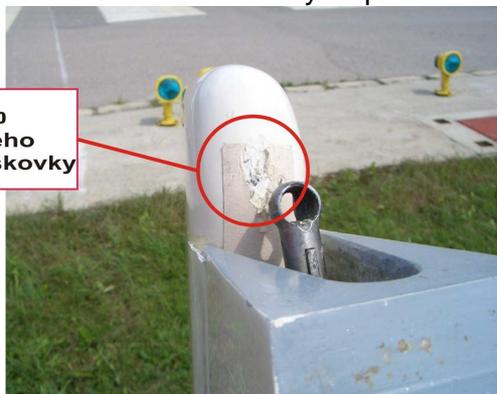
### Technical inspection of glider after the accident

After the accident the glider was documented and a photo documentation file was drawn up.

As the pilot's mobility was not restricted after the accident, it was impossible to determine the state of connection of the elevator by the later inspection. The witnesses say that after their arrival to the place of accident the elevator was not connected. The pilot did not make any comment to the state of connection of the elevator.

State of connection of elevator ascertained by inspection of glider.

Miesto poškodenia  
smerovky od voľného  
konca tiaha výškovky



From the state of damage to the vertical rudder it results that the damage was caused by movement of the loose end of the elevator rod.

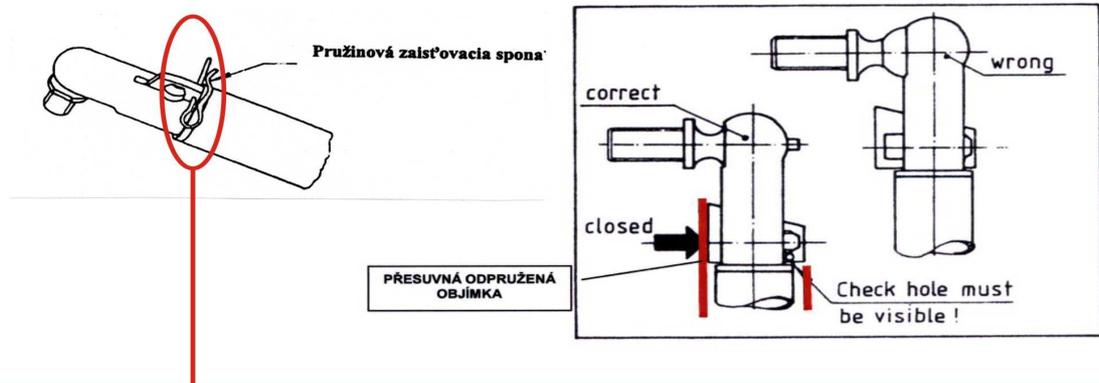
Miesto poškodenia  
výškovky od voľného  
konca tiaha výškovky



The state of damage to the elevator also leads to the conclusion that the damage was caused by the loose end of the elevator rod.

State of capability of elevator rod terminal (L`Hotellier):

- Modification of rod
- According to glider maintenance records the binding decision of LBA 1993-001/3 from 9 April 1998 was implemented and verified on 6 October 2008.
- The said type of terminal and its modification accepted by the binding decision correspond to the implementation of the binding decision.



V súlade s platnou Letovou príručkou - Príručkou pre údržbu daného vetroňa je v príručke stanovené **povinnosť** použitia Pružinovej zaisťovacej spony osadenej do kontrolného otvoru, ktorá v tomto prípade v súlade s príručkou nebola použitá.

The status check detected non-compliance with approved documentation of glider. The flight manual – glider operating manual provides (page 17):

“The experience-based **obligation** to use for securing of the terminal a “spring clamp embedded in the manhole in a “locked terminal“ position.

#### 1.7 Meteorological situation

The meteorological situation had no influence on the flight.

#### 1.8 Aids to navigation

Not applicable.

#### 1.9 Communications

The aircraft was equipped with a radio communication system enabling bilateral communication at every moment of flight with all air stations.

#### 1.10 Aerodrome information

Not applicable.

#### 1.11 Flight recorders and other recording systems

Not applicable.

## 1.12 Wreckage and impact information



**Celková situácia VPD 24 LZZI**

### 1.13 Medical and pathological information

Crew of glider – slight injuries not requiring a medical examination.

### 1.14 Fire

Not applicable.

### 1.15 Survival aspects

The search and rescue using SAR means were not required.

### 1.16 Tests and research

Tests or expert inspection of parts of the glider were not required.

### 1.17 Organizational and management information

The flight of glider was a part of the flight day after implemented pre-flight preparation of participating members of AK Žilina.

### 1.18 Additional information

Not applicable.

### 1.19 Useful or effective investigation techniques

Standard investigation methods were used.

## **2. ANALYSIS**

The impact of the glider to RWY 24 left traces of multiple contacts with RWY on RWY. On the basis of analysis of the accident video recording, witness statements, character of flight and impacts on RWY we can state that the flight characterized by significant amplitudes, change of flight altitude, changes of incidence angle related to increasing flight speed during towing of the glider and the decrease of speed after detachment of towing rope to the stalling speed, was the result of uncontrolled flight with unattached elevator.

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

### **3.1 Findings**

Crew of glider:

- the pilot had sufficient flying experience.
- during the pre-preparation the pilot did not attach the rod to the elevator of the glider.
- the pilot underestimated the check and the possibility of securing the quick-release coupling by spring securing clamp.

Glider:

- the state of maintenance of airworthiness of the glider was documented.
- the glider had a valid certificate of airworthiness.
- the maximum takeoff weight was not exceeded.
- the technical cause of accident was not identified.
- the binding decisions for maintenance of airworthiness of the glider were implemented.
- maintenance was carried out by an authorised organisation in accordance with requirements of the holder of the type certificate.

### **3.2 Causes of accident:**

- inconsistent pre-flight preparation and inspection of the glider.
- non-compliance with the instructions in the glider operating manual through the improper use of securing clamp of the elevator rod.

## **4. SAFETY RECOMMENDATIONS**

The final report from investigation of air accident does not contain any recommendations.

Žilina, 10.08.2011