



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

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



Reg. No. : SKS2013001

## FINAL REPORT

on investigation of serious incident  
of aircrafts **WT-9 Dynamic** and **Z-37-2**  
Registration No. **OM-PDB** and **OM-YJG**

Date: 19.04.2013

Place: N 48°45'03'' E 018°31'15''

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

Aircraft type:	<b>WT-9 Dynamic</b>	<b>Z-37-2</b>
Registration No.:	OM-PDB	OM-YJG
Operator:	SNA gen. M. R. Štefánika	AERO SLOVAKIA a.s.
Owner:	AK Prievidza	AERO SLOVAKIA a.s.
Take-off site:	LZPE	LZPE
Planned landing site:	LZPE	LZPE
Flight phase:	aircraft towing	
Type of operation:	general aviation / sport and recreational flying	
Place of incident:	N 48°45' 03'' E 18°31' 15''	
Date and time of incident:	19.04.2013, 10:51	

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

## B. INFORMATIVE SUMMARY

On 19 April 2013 during a flight day of the 6th of international gliding competition in Prievidza "FCC Gliding 2013", in the take-off phase of tow flights from the airport LZPE and towing of gliders from the point of disconnection, aircraft type Z-37-2 Čmelák, registration No. OM-YJG, came into collision with the towing rope of aircraft type WT-9 Dynamic, registration No. OM-PDB. The tail of aircraft Z-37-2 Čmelák was damaged in the occurrence.

The pilots or other persons without injuries.

The following commission was appointed for investigation of the serious incident:

Ing. Zdeno BIELIK  
Lic. Jaroslava MIČEKOVÁ

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

During towing of gliders by tow aircraft "WT-9 Dynamic" and "Z-37-2 Čmelák", near the marked point of disconnection "DOLINA N 48° 45' 22,43'', E 18° 31' 21,01''", the flight paths of both aircraft with low vertical separation crossed each other at the moment of disconnection of towing rope by the pilot of glider towed by aircraft WT-9 Dynamic, when aircraft Z-37-2 Čmelák was under this rope.

The released rope fell over the rear section of aircraft Z-37-2 Čmelák, partially twined around its rear fuselage and elevator and damaged its trimming tab.

Subsequently both aircraft made a safe landing on the airport LZPE.

Nobody was injured in this incident.

Daytime: Day  
Flight rules: VFR

#### 1.2 Injuries to persons

Injury	Crew	Passengers	Other persons
Fatal	-	-	-
Serious	-	-	-
Minor	-	-	-
None	4	-	

#### 1.3 Damage to aircraft

Aircraft WT-9 Dynamic was without damage.

Aircraft Z-37-2 Čmelák suffered the following damage:

- puncturing of elevator cover on both sides,
- puncturing of elevator cover in its upper left section,
- slight deformation of trailing edge of the elevator trimming tab,
- breaking-off of elevator trim-tab rod.





#### 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 Authority.

#### 1.5 Personnel information

##### Pilot of aircraft WT-9 Dynamic:

a national of the Slovak Republic of 49 years;

holder of airline transport pilot licence ATPL(A), No. SK 05080015 issued by the Civil Aviation Authority of the Slovak Republic on 5 February 2008.

Medical certificate of 1st class with marked validity until 10.12.2013  
2nd class with marked validity until 10.12.2014

##### Qualifications:

B737B	with marked validity until 31.10.2013
FI(A)	with marked validity until 30.06.2014
MEP(L)	with marked validity until 31.10.2013
SEP(L)	with marked validity until 31.10.2013
TRI(A) / B737B	with marked validity until 31.03.2015

##### Flying experience:

Total flight hours :	6 726 h 20 min
For the last 30 days:	40 h 45 min
For the last 90 days:	132 h 55 min
For the last 90 days with the type:	4 h 00 min

### **Pilot of aircraft Z-37-2:**

a national of the Slovak Republic, aged of 36 years;

holder of commercial pilot licence CPL(A), No. SK 03080065 issued by the Civil Aviation Authority of the Slovak Republic on 12 May 2008.

Medical certificate of 1st class with marked validity until 15.03.2014  
2nd class with marked validity until 10.12.2018

#### **Qualifications:**

FI(A)	with marked validity until 31.08.2014
IR(A)	with marked validity until 31.03.2014
IR(A) / MPA	with marked validity until 30.09.2013
Let L410 / co pilot	with marked validity until 30.09.2013
MEP(L)	with marked validity until 31.03.2014
SEP(L)	with marked validity until 31.05.2014

#### **Flying experience:**

Total flight hours :	1624 h 48 min and 3321 flights
For the last 30 days:	11 h 41 min
For the last 90 days:	13 h 21 min
For the last 90 days with the type:	3 h 46 min

### **1.6 Aircraft information**

#### **WT-9 Dynamic**

Registration No:	OM-PDB
Serial No:	DY-177/2007
Manufacturer:	AEROSPOOL, spol. s r.o., SR

Certificate of airworthiness No. 0852, issued by the Civil Aviation Authority of the Slovak Republic on 25.04.2007 for unlimited period under the condition of verification of airworthiness by authorized legal person with periodicity not longer than 12 months.

Liability insurance: Allianz Slovenská poisťovňa, No. 411 016 602.



## Z-37-2

Registration No: OM-YJG  
Serial No: 0807  
Manufacturer: LET, a.s. Kunovice, ČR

Certificate of airworthiness No. 0297-S, issued by the Civil Aviation Authority of the Slovak Republic on 26.08.2008 with marked validity until 06.08.2013.

Liability insurance: Allianz Slovenská poisťovňa No. 411 015 834.



### 1.7 Meteorological information

Not applicable.

### 1.8 Aids to navigation

Not applicable.

### 1.9 Communications

The aircraft were equipped by onboard radio stations enabling two-way communication with all air stations at every moment of the flight.

### 1.10 Aerodrome information

The airport LZPE is a public international airport with irregular operation.  
The airport is situated in an altitude of 260 m above sea level, direction of RWY 04/22.

### 1.11 Flight recorders

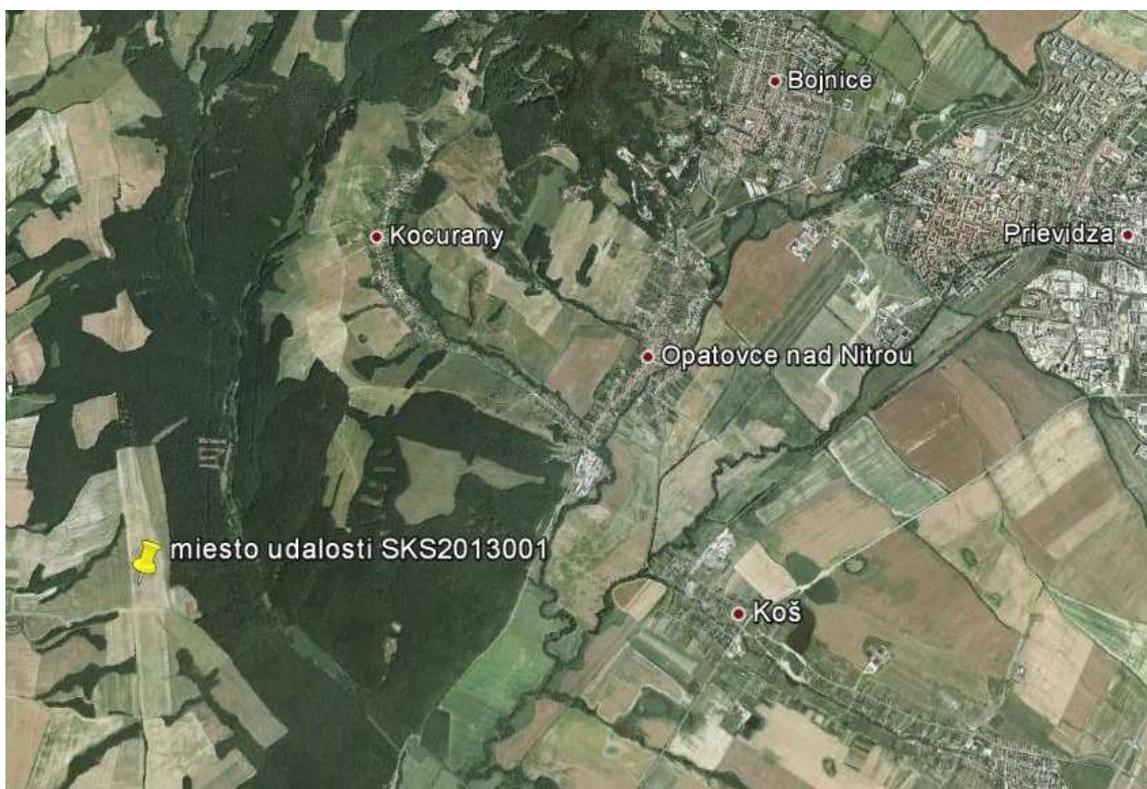
The towed aircraft were equipped by devices that recorded flight parameters and information about the air position of the respective aircraft.

### 1.12 Wreckage and impact information

The place of collision of the aircraft with the rope is described by geographic coordinates:

N 48°45'03'',

E 018°31'15''



### 1.13 Medical and pathological information

Not applicable.

### 1.14 Fire

No fire broke out.

### 1.15 Survival aspects

Not applicable.

### 1.16 Tests and research

Tests and research were not required.

### 1.17 Organizational and management information

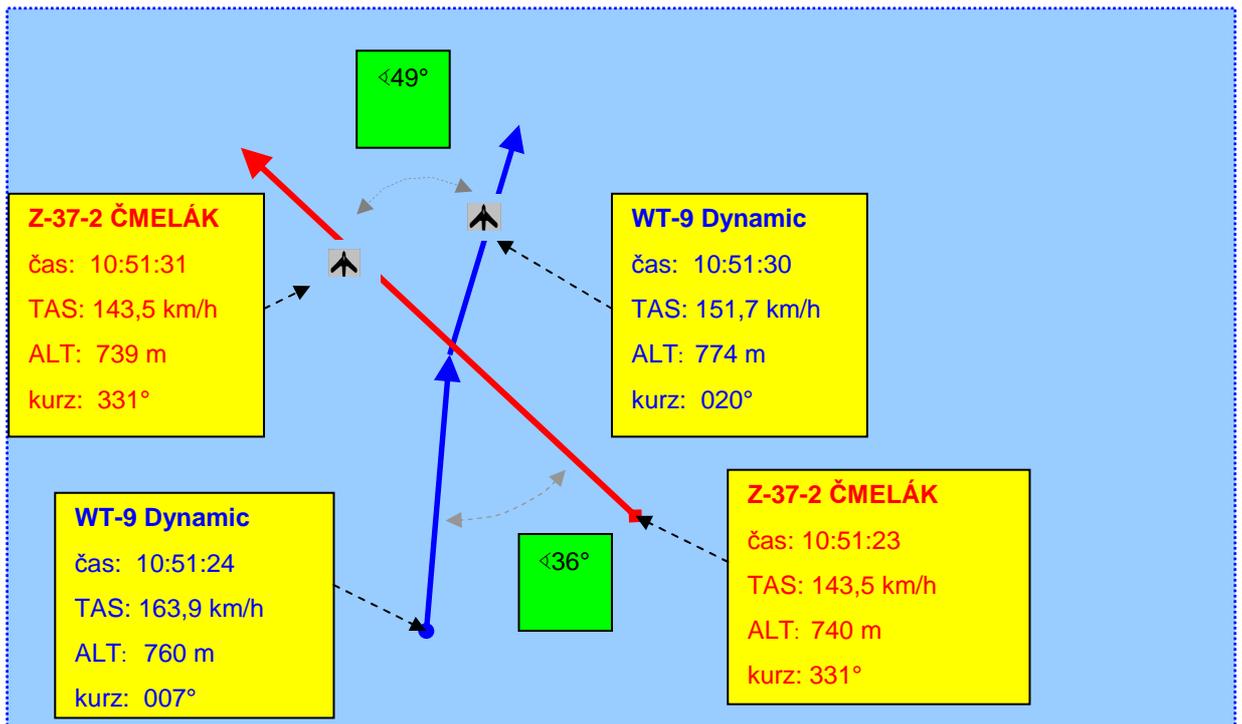
The flight operation was carried out in accordance with aviation regulations valid in the territory of the Slovak Republic.

### 1.18 Additional information

The data used in the table and graph were obtained from recorders of the towed gliders through the programme "SEE YOU".



	<b>OM-PDB</b> MP- competitive sign glider towed by aircraft WT-9				<b>OM-YJG</b> AU- competitive sign glider towed by aircraft Z-37-2			
	time speed TAS	coordinates	ALT (m)	heading°	time speed TAS	coordinates	ALT (m)	heading°
vzlet	10:46:26	48°46'10'' 18°35'26''	260	222°	vzlet: 10:47:37	48°46'10'' 18°35'28''	260	220°
1.	10:51:16 161,3 km/h	48°44'46'' 18°31'11''	743	002°	10:51:15 140,3km/h	48°44'47'' 18°31'25''	731	342°
2.	10:51:24 163,9km/h	48°44'57'' 18°31'13''	760	007°	10:51:23 143,5 km/h	48°44'59'' 18°31'19''	740	331°
3.	10:51:30 151,7km/h	48°45'06'' 18°31'15''	774	020°	10:51:31 143,5 km/h	48°45'07'' 18°31'11''	739	331°



### 1.19 Useful or effective investigation techniques

Standard investigation methods were used.

## 2. ANALYSIS

The towing of several gliders at the same time to one point of disconnection requires increased attention of the pilots of the towing and towed aircraft to prevent any collision between the aircraft. The pilots must continuously scan the whole area around their aircraft and if appropriate specify their position with use of radio communication.

In accordance with Regulation L-2 "Rules of the Air" the overtaking aircraft has the right of way. The overtaking aircraft is an aircraft that approaches another from the rear on a line forming an angle of less than 70 degrees with the plane of symmetry of the latter.

From data shown in the table and figures in paragraph 1.18 it can be concluded that overtaking aircraft was aircraft WT-9 Dynamic, which flew with a higher speed and was approaching the aircraft Z-37-2 Čmelák from the left side and with elevation.

The overtaken aircraft was aircraft Z-37-2 Čmelák, which flew with a lower speed. The flight paths of both aircraft at the time of crossing formed an angle of 36°-49° (according to the record from devices installed onboard the towed aircraft).

In this case, taking into account the position of the pilot of aircraft WT-9 Dynamic in the cockpit (sitting on the left-handed seat), he had a limited view of the aircraft flying at a lower height on the right side.

However, the pilot of aircraft Z-37-2 Čmelák, who had a good view of aircraft WT-9 Dynamic flying in front of him with elevation, was not discharged of responsibility for prevention of collision with this aircraft (although he had the right of way), which this pilot observed when he prevented the collision by pushing the control lever and flying under the aircraft WT-9 Dynamic.

The pilot of glider "MP" also contributed to the collision of aircraft Z-37-2 Čmelák with towing rope of aircraft WT-9 Dynamic by disconnecting the rope at the moment when the aircraft was flying under him, probably in the effort to prevent the collision with aircraft Z-37-2 Čmelák.

## 3. CONCLUSIONS / Cause of serious incident

### 3.1 Findings

- the pilots had valid qualifications for the critical flights,
- the aircraft had valid documentation and did not show any faults before the serious incident,
- the aircraft fulfilled the conditions of airworthiness before the critical flight.

### 3.2 Causes of serious incident:

- the cause of the serious incident was the collision of aircraft Z-37-2 Čmelák with towing rope of aircraft WT-9 Dynamic,
- the under-flying of aircraft WT-9 Dynamic by aircraft Z-37-2 Čmelák with a low vertical separation of 20-30m,
- disconnection of towing rope by the pilot of glider towed behind the aircraft WT-9 Dynamic at the moment when the aircraft Z-37-2 Čmelák was under the rope,
- insufficient monitoring of the surrounding air space by pilots of tow aircraft.

## 4. FLIGHT SAFETY RECOMMENDATIONS

The final report from investigation of the serious incident does not contain any recommendations.

Bratislava, 03.07.2013