



# 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. SKA2012001

## FINAL REPORT

on investigation of air accident  
of gliders **DG-100G Elan** and **Discus b**  
registration No. **OE - 5298** and **D - 8977**

Date: 04.04.2012

Place: 935 m away from the Prievidza / LZPE airport reference point

## 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.

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:                | DG-100G Elan  | DISCUS b   |
| Registration No.:              | OE - 5298   | D - 8977   |
| Operator / Owner:              | Mgr. Martin Kühnl<br>Hauptstraße 5<br>3381 Golling, Austria                     | Stefan Pelka<br>Löschsiedlung 9<br>8784 Trieben, Austria |
| Take-off site:                 | Airport Nitra / LZNI  |  |
| Planned landing site:          | LZNI  |  |
| Flight phase:                  | training cross-country flight – circling in updraft                             |  |
| Place of collision of gliders: | 935 m away from the LZPE reference point („ARP“)<br>N 48°45'48'', E 018°34'29'' |  |
| Date and time of accident:     | 04.04.2012 12 h 27 min  |  |

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

## B. INFORMATIVE SUMMARY

On 04.04.2012 at 12:27, when making cross-country flights as a part of training of Austrian pilots in gliding at the airport LZNI, two gliders collided during the ascent flight, approximately 935 m away from ARP LZPE.

The unharmed pilots with damaged gliders made a forced landing. The glider DG-100G Elan landed near the community Malinová and the glider Discus b landed at the airport LZPE.

The air accident was reported by the flight manager of Aero Club Prievidza to the police of Prievidza, to the aerodrome of departure LZNI and to the Aviation and Maritime Investigation Authority of the Ministry of Transport, Construction and Regional Development of the Slovak Republic.

Persons appointed for investigation of causes of the air accident:

Ing. Ján CHUDÝ – chairman of the Investigation Commission

Lic. Jaroslava MIČEKOVÁ – 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

Training of Austrian pilots in gliding took place at LZNI in the days of 30.03. – 06.04.2012. All the pilots took off from LZNI for training cross-country flight in the north-east direction to the city of Prievidza at the same time on 04.04. 2012.

During their return to the aerodrome of departure the gliders were flying in the operating district of ATZ LZPE in a small formation and searched for thermal uplifts.

The pilot of glider **Discus b** (competition mark „WM“) was flying to the south-west and the pilot of glider **DG-100G Elan** (competition mark „4“) was flying to the north-east on reciprocal tracks without mutual visual and radio contact. At 12.27 the pilot of glider „WM“ switched from straight-line gliding flight to the left turn in the effort to enter the thermal updraft, but could not see glider „4“ for unknown reasons. When the pilot of glider „WM“ started turning left, he suddenly noticed the glider „4“ approaching from the right side a meter under him. Despite the effort made by both pilots to avoid collision, the gliders clashed in altitude of 1 556 m QNH, 935 m away from ARP LZPE. After the collision the pilots interrupted their mission, checked the function of glider controls and decided to make a forced field landing.

The glider DG-100G Elan landed 9 km from the place of collision, near the community Malinová. The glider Discus b landed at the airport LZPE.

The landing of both damaged gliders on the field landing and at LZPE occurred without faults and other damages.

Daytime: Day

Flight rules: VFR

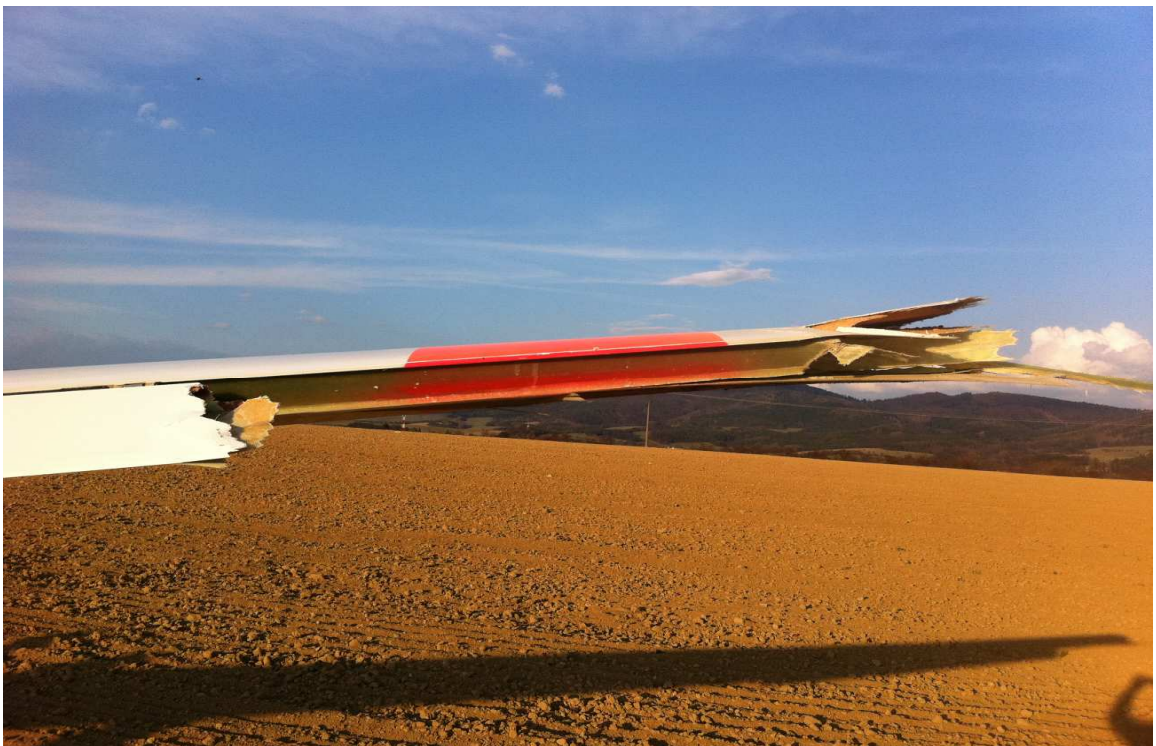
#### 1.2 Injuries to persons

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

#### 1.3 Damage to gliders

**Glider DG-100G Elan** – after the collision its right wing was broken 0.5 m from its tip, the right aileron was broken 1 m from its external edge, the right wing skin was broken from the spar to the trailing edge on the top part, 0.6 m from the spar in the area of rudder cut-out symmetrically on the upper and lower skin, the wing skin was broken from the spar to the

trailing edge near the butt rib (symmetrically on the upper and lower skin). The glider also had a 7 cm long crack in the skin near the air brake and unstuck wing skin from the butt rib. On the airframe of glider the front edge of left-hand undercarriage door was damaged, the right-hand undercarriage door was torn off and the door hinges were destroyed. The left wing and tail surfaces were not damaged.



**Glider Discus b** - after the collision its left wind leading edge was broken, the upper and lower sandwich wing skin was damaged 1.5 m away from the butt rib in a length of 30 cm up to the spar boom, the trailing edge of wing was unstuck in a length of 15 cm, about 1.5 m away from the butt rib. The glider also had cracks on the upper side of the laminated wing skin approximately 1.5 m away from the butt rib on the surface from the beam to the trailing edge, cracks on the lower side of laminated wing skin 1.5 m away from the butt rib on the surface from the beam to the trailing edge and upper skin of the upper side of wing detached from the spar boom in a length of 5 cm in the area above the open wing skin. The right wing and tail surfaces were not damaged.



#### 1.4 Other damages

The Aviation and Maritime Investigation Authority was not informed about circumstances with potential application of other claims for compensation of damages towards a third party.

#### 1.5 Personnel information

##### Pilot of glider Discus b

Citizen of Austria, aged of 64 years

holder of the pilot licence GPL, No. 4660, issued by the Austrian Aero Club (OE AEC), with marked validity until 24.04.2013.

Qualifications: Gliders (GLD), AeroTow, Self Launch and Acro, with marked validity until 24.04.2013.

Medical certificate of 2<sup>nd</sup> class with date of issue of 28.04.2011 and marked validity until 28.04.2013.

##### Flying experience:

Total flight hours: 4 458 h 08 min and 1 386 flights  
On the date of accident: 1 h 40 min and 1 flight

##### Pilot of glider DG-100G Elan

Citizen of Austria, aged of 48 years

holder of the pilot licence GPL, No. 17504, issued by the Austrian Aero Club (OE AEC), with marked validity until 15.10.2013.

Qualifications: Gliders (GLD), AeroTow, Self Launch and marked validity until 24.04.2013.

##### Flying experience:

Total flight hours: 176 h 08 min and 360 flights  
On the date of accident: 1 h 08 min and 1 flight

#### 1.6 Aircraft information

Type: **DISCUS b**  
Registration No: D – 8977  
Serial No: 70  
Year of manufacture: 1986  
Manufacturer: Shempp-Hirth Flugzeugbau GmbH, Kirchheim/Teck, SRN  
Total operating hours: 3 930 h 30 min and 3 077 flights by 04.04.2012.

The glider was put into operation on 22.08.2006 by issue of the certificate of airworthiness No. 32058 and the certificate of registration in the Federal Republic of Germany No. 32058 of 06.08.2007, issued by LBA of the Federal Republic of Germany. The certificate of verification of airworthiness No. 37/2011 had marked validity until 08.10.2012.

Type: **DG-100G Elan**  
Registration No: OE - 5298  
Serial No: E109G79  
Year of manufacture: 1982  
Manufacturer: DG Flugzeugbau GmbH, D-76646 Bruchsal, FRG  
Total operating hours: 1 384 h 00 min and 789 flights by 04.04.2012.

## 1.7 Meteorological situation

The weather conditions in the place and at the time of air accident was without precipitation, 1/8 - 2/8 Cu, with visibility above 10 km. The high-altitude wind at the time of air accident was blowing from direction of 180° and the wind speed fluctuated up to 4 KT. The high-altitude air temperature on the critical place was + 10°C.

Weather at LZPE:

METAR LZPE 041200 21009KT 170V240 9999 SCT036 21/05 Q1007=

METAR LZPE 041300 20011KT 130V240 9999 SCT060 22/04 Q1007=

The critical flight of gliders DG-100G Elan and Discus b was made in an environment, which can be described from the meteorological aspect as stable weather without precipitation and with excellent visibility without meteorological phenomena likely to negatively influence the flights of the gliders.

## 1.8 Aids to navigation

Not applicable.

## 1.9 Communications

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

## 1.10 Aerodrome information

Not applicable.

## 1.11 Flight recorders and other recorders

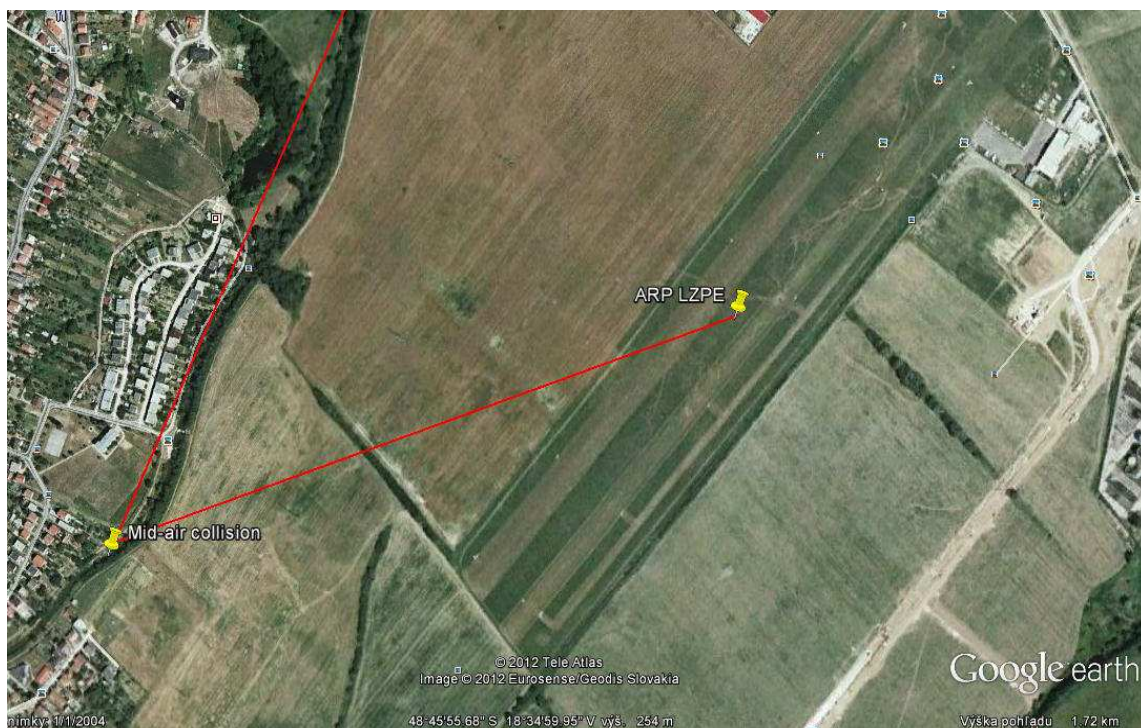
Not applicable.

## 1.12 Wreckage and impact information

The place of collision of the gliders is delimited by the following coordinates:

N 48°45'48'';

E 018°34'31''



### 1.13 **Medical and pathological information**

Not applicable.

### 1.14 **Fire**

No fire broke out.

### 1.15 **Survival aspects**

The search and rescue were not required. Nobody was injured in the accident.

### 1.16 **Tests and research**

The gliders were inspected for damage in the premises of the company AEROSPOOL spol. s r.o.

### 1.17 **Organizational and management information**

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

### 1.18 **Additional information**

The glider **DG-100G Elan** was equipped by FLARM (Traffic and Collision Warning for General Aviation) for displaying close service, visual and acoustic warning of approaching aircraft and obstacles, as well as by ELT (Emergency Locator Transmitter).

### 1.19 **Useful or effective investigation techniques**

Standard investigation methods were used.

## 2. **ANALYSIS**

### 2.1. **Activity of pilots**

When entering the updraft, the pilot of glider **Discus b** created, although unintentionally, extremely dangerous situation by crossing the flight path of glider **DG-100G Elan** flying on reciprocal tracks and did not observe the rule of safe avoidance of gliders flying on reciprocal tracks.

If two gliders are flying on reciprocal or approximately reciprocal, each of them will avoid the other glider by turning right.

After the collision the pilots interrupted their missions and made a forced field landing.

The pilot with glider **Discus b** landed at LZPE without causing other damage.

The pilot with glider **DG-100G Elan** checked again the function of controls after the collision and, taking into account the scope of damage to the glider and proximity of residential areas, continued the straight-line flight. He descended on the nearest suitable surface where he made forced landing without causing other damage.



### **3. CONCLUSIONS / CAUSE OF AIR ACCIDENT**

#### **3.1 Findings**

- the pilots had valid qualifications for the flights in question,
- the gliders had valid documentation and did not show any faults before the accident,
- the gliders fulfilled the conditions of airworthiness before the critical flight,
- the gliders were seriously damaged in the accident,
- the meteorological conditions had no influence on the occurrence of the accident,
- nobody was injured in this air accident,

#### **3.2 Cause of collision of gliders**

The pilot of glider **Discus b**, who entered the updraft, crossed the flight path of glider **DG- 00G Elan** flying on reciprocal track and did not observe the rule of safe avoidance of gliders flying on reciprocal tracks.

### **4. SAFETY RECOMMENDATIONS**

On the basis of investigation of causes of air accident involving

gliders **DG-100G Elan** a **Discus b**

registration No. **OE-5298** and **D-8977**

date of accident: **04.04.2012**

we recommend the implementation of the following measures:

- to implement analysis of air accident through the authorized organization SNA with air personnel, putting stress on the observance of the procedures and rules of right of way in entering, circling, leaving the updrafts and avoidance in flight.

Bratislava, 23.07.2012