



**MINISTRY OF TRANSPORT, POSTS AND
TELECOMMUNICATIONS
OF THE SLOVAK REPUBLIC**

Air Accidents and Incidents Investigation Board
Nám. slobody 6, P.O. BOX 100, 810 05 Bratislava 15

Reg. No SKA2010012

FINAL REPORT

on aircraft accident investigation

Aircraft type: **Discus 2bR**

Registration No: **D-7136**

Date: 10.07.2010

Place: community of Zazriva

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.

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 and with the Council Directive 94/56/EC, establishing the fundamental principles governing the investigation of civil aviation accidents and incidents.

The exclusive aim of investigation is to establish causes of an accident or serious incident and 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 have 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:	Sebastian Eder Tiefer Weg 19 4722 Peuerbach, Austria
Type of aircraft:	DISCUS 2bR
Registration No:	D-7136
Place of take-off:	LZPE
Place of planned landing:	LZPE
Flight phase:	competitive flight – ground landing
Place of accident:	community of Zazriva N 49°16'19'' E 019°08'50''
Date and time of accident:	10.07.2010, 15 h 52 min

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

B. INFORMATIVE SUMMARY

On 10 July 2010 at 03,52 pm during the fourth flight day of the 31th FAI World Gliding Championship in Prievidza ("31st FAI WGC 2010"), the pilot of aircraft Discus 2bR, registration No D-7136, made a forced ground landing near the community of Zazriva. As a consequence of a hard landing the rescue system RADA-500 was activated.

The pilot was injured and transported to the hospital in Dolny Kubin.

The air accident was reported by the accident witness to the Police Department in Dolny Kubin and by the organizer of the competition to the Air Accidents and Incidents Investigation Board.

The following persons were appointed as investigators of the air accident:

Ing. BENEK Igor
Lic. MICEKOVA Jaroslava
Ing. CHUDY Jan

The report is issued by:

Air Accidents and Incidents Investigation Board
of the Ministry of Transport, Posts and Telecommunications 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 10 July 2010, when accomplishing a competitive task, the pilot of aircraft **Discus 2bR**, registration No D-7136 (competitive sign "**NX**"), for a reason of low altitude was unable to reach the sector from the third turning point (altitude of 500 m), which was the hill Kubinska hola, and therefore he decided to turn sooner and continue the flight in west direction to the sunny side of the mountain in the effort to find an upward stream. He reached a narrow and deep valley, but he did not achieve the required altitude to continue the flight and so decided for ground landing in the selected area near the community of Zazriva. He discharged water ballast from aircraft during the flight on the route Ruzomberok – Dolny Kubin. He terminated the selection of the area in altitude of 725 m (50 m of AGL), dropped the gear, terminated the 4th turn in altitude of 612 m (12 m of AGL), began the final approach (course: 251°, wind 095°/3 KT) and approached the ground with a speed of $V_{APP} = 95$ km/h. In the final phase of landing, in altitude of 8 m AGL, the pilot noticed a green fence that he was unable to see at the time of selection of the landing ground covered by green grass, and therefore he suddenly changed direction to the right (course 330°). He made the landing with side wind, flaps out and landing gear at a low speed, on the ground with uphill gradient. After hard landing of aircraft on the ground the rescue system "RADA-500" was activated – the pyrocartridge shot the emergency parachute.

A witness of the air accident immediately called the health rescue service, the police, and informed about the aircraft landing the organizer of the 31st FAI WGC 2010.

Daytime: Day

Flight rules: VFR



1.2 Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	-	-	-
Serious	1	-	-
Minor	-	-	-
None	-	-	-

1.3 Damage to aircraft

Following the hard landing, the aircraft Discus 2bR "NX" had the parachute of the rescue system shot, the wheel of the main landing gear driven in the aircraft body, the cockpit enclosure deformed, the pilot seat broken, cracks in the aircraft body covering and the CF frame behind the main landing gears several times broken. The rodding of gear attachment and control in the aircraft body was broken on several places, the drive of left-handed aerodynamic brake in the aircraft body was damaged, and delaminations near the emergency parachute shaft (left side) were 10 cm long. Varnish on the lower side and leading edge of the right wing was scratched and skids on both wings were torn off.

After the hard landing the aircraft suffered damage of large extent.

1.4 Other damage

The Air Accidents and Incidents Investigation Board was not informed about circumstances with potential claims for compensation of other damages toward a third party.

1.5 Personnel information

Pilot of aircraft D - 7136

Citizen of the Republic of Hungary, 33 years old

Holder of the aircraft personnel licence GPL No 08-5630, issued by the Civil Aviation Authority of the Republic of Hungary on 11 January 2001.

Qualifications: Gliders GLD, with marked validity until 20 July 2010
Instructor, with date of issue 16 October 2001

Medical certificate of 2nd class with marked validity until 17 July 2010.

Flying experience:

Total flying hours: 1 945 h 00 min

On the day of air accident: 3 h 55 min

1.6 Aircraft information

Type: DISCUS 2bR

Registration No: D-7136

Serial No: 221

Year of manufacture: 2006

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

Total time and number of flights from the year of manufacture: 363 h 35 min and 101 flights

Third party liability insurance valid from 04.05.2010 to 04.05.2011.

Aircraft station licence No 19450243 with marked validity until 31 March 2016.

The aircraft was put into operation on 5 May 2008 by issuance of the certificate of airworthiness No 31622 and the certificate of entry into the aircraft register No L/31622, issued by the Civil Aviation Authority of the Federal Republic of Germany. The certificate of airworthiness testing 162/2010 was valid until 8 June 2011.

Calculation of aircraft weight at the time of air accident

Empty weight of aircraft	298.3 kg
Weight of crew	74.5 kg
<u>Weight of water ballast: approx. 0 l x 0.999 kg/l</u>	<u>0.0 kg</u>
Total aircraft weight at the time of AA	372.8 kg

1.7 Meteorological information

On the day of accident our territory was influenced by the ridge of higher pressure above Poland. At that time, the weather in the area of AA was without precipitation, thermal lift blue sky with average increases of 1.0-2.0 m/s and visibility more than 10 km. At the time of AA, the ground wind blew from direction of 095° and achieved the speed of 3 KT. The ground air temperature in given area was approximately + 27 °C .

1.8 Aids to navigation

The aircraft was equipped for VFR flights.

1.9 Communications

The aircraft was equipped by on-board station to allow G/A/G communication at any moment of flight with all air stations.

1.10 Aerodrome information

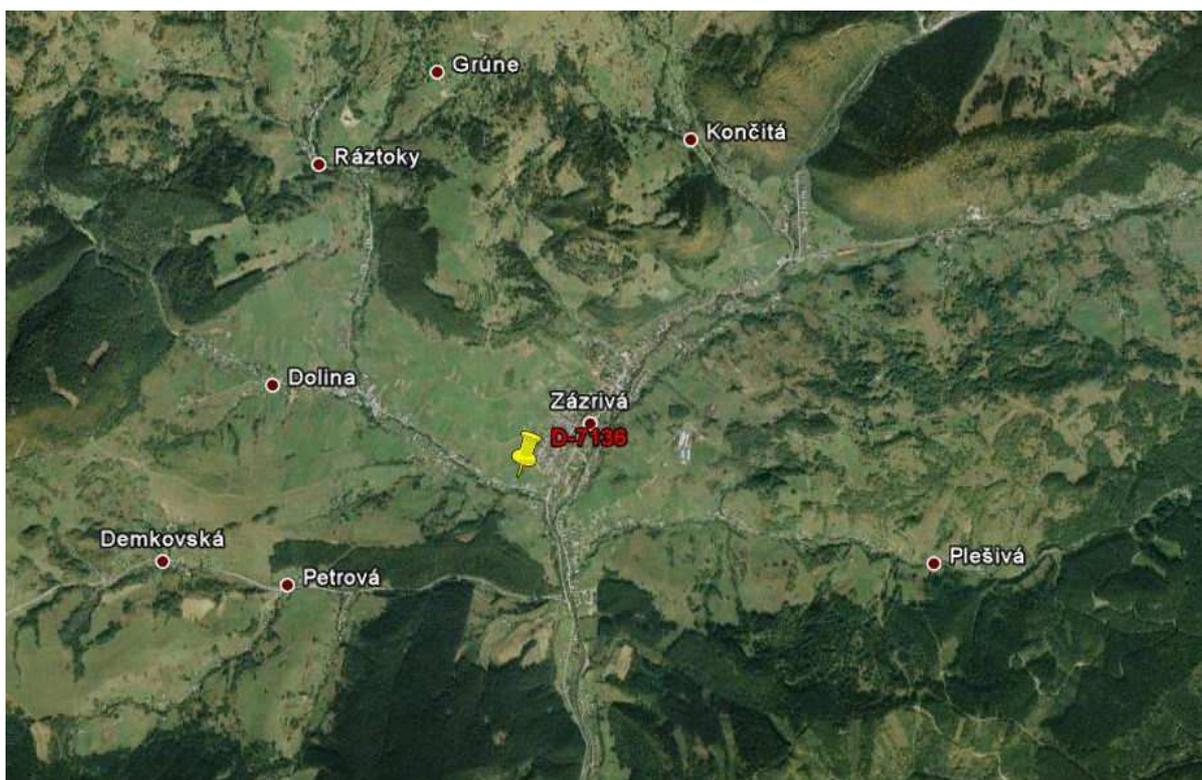
Not applicable.

1.11 Flight recorders and other recording systems

The aircraft **Discus 2a „GX“** was equipped by the FLARM system (Traffic and Collision Warning for General Aviation – displaying junction traffic, visual and acoustic warning of other approaching aircraft and obstacles), ELT ACK E01 (Emergency Locator Transmitter), VOLKSLOGGER (IGC approved GNSS flight recorder) and the COLIBRI system (IGC approved GNSS flight recorder).

1.12 Wreckage and impact information

The place of accident is described by geographic coordinates: N 49°16'19''; E 019°08'50''. After the accident the aircraft remained in one piece and was damaged.





1.13 Medical and pathological information

As the pilot complained of back pain, he was transported to the hospital in Dolny Kubin for medical examination which confirmed a compression fracture of sacral vertebra.

1.14 Fire

Not applicable.

1.15 Survival aspects

No rescue activity was required. The accident witness immediately called the health rescue service, the police, and informed about the aircraft landing the organizer of the 31st FAI WGC 2010. The accident was notified by phone and in writing to the Air Accidents and Incidents Investigation Board.

1.16 Tests and research

Not applicable.

1.17 Organizational and management information

The competition 31st FAI World Gliding Championship 2010 was organized in accordance with the FAI Sport Rules – General Part and Part 3, Amendment "A" to the Sport Rules, Part 3, and with the Local Rules of the 31st FAI WGC 2010.

During daily pre-flight briefings the pilots of competitive aircrafts were instructed on:

- the obligation to comply with the safety rules,
- flight rules on the route and circling in upward streams
- increased risk of collision during competitive flights
- the obligation to comply with the rules for the search for other aircraft in their proximity
- early selection of areas for ground landing.

1.18 Additional information

The pilot was equipped by GNSS FR (Global Navigation Satellite System flight recorder). Data in the flight recorder, containing data from flights of the competition day, were evaluated by the organizer of the 31st FAI WGC 2010.

1.19 Useful or effective investigation techniques

Standard investigation methods were used.

2. ANALYSIS

2.1. Flight history

The pilot of aircraft **Discus 2bR "NX"** did not achieve the required altitude to continue the flight in the sector from the third turning point, which was the hill Kubinska hola. The pilot flew to an area where he expected to find some upward streams. During his search, he was unable to join any upward stream and his aircraft was losing flight altitude all the time.

In this phase of flight the aircraft was situated in a narrow and deep valley, so the pilot decided to make forced ground landing because of the low altitude. He decided to make ground landing in an area near the community Zazriva.

In the final phase of landing (course 251°), the pilot noticed an obstacles to landing (green fence) and suddenly changed the direction to the right (course 330°). In this position the pilot made his landing with flaps out, landing gear down, side wind and low speed on a ground with uphill gradient.

The aircraft landed hard on the ground and this hard landing caused damage to the aircraft and injury to the pilot.

The rescue system "RADA-500" was activated - the pyrocartridge shot the emergency parachute.

2.2. Crew

According to submitted documentation, the pilot of aircraft **Discus 2bR "NX"** had valid qualifications for flights with aircraft of given category.

The pilot had sufficient flight experiences for competitive flights.

At the time of air accident the pilot was not under the influence of alcohol, drugs or common medicaments that may have decreased his attention during flight.

2.3 Meteorological situation

The critical flight of aircraft **Discus 2bR "NX"** took place in an environment that can be characterized from meteorological view as stable - without precipitation, with weakening thermal streams of blue sky and excellent visibility without meteorological events likely to negatively affect the flight of this aircraft.

Meteorological conditions had no impact on the occurrence of the air accident.

3. CONCLUSIONS / Cause of air accident

The pilot of aircraft reached a narrow and deep valley, where he only found descent, with limited conditions for selection of the landing ground.

The pilot decided to make a ground landing in an area near the community of Zazriva.

The pilot of aircraft **Discus 2bR "NX"** in the "final" position changed his decision on the place of ground landing.

The pilot did not master the technique of landing with flaps out on a ground with uphill gradient.

4. SAFETY RECOMMENDATIONS

Following the investigation of causes of the air accident of

Aircraft type **Discus 2bR**
Registration No **D-7136**
Date of accident **10.07.2010**

We recommend to take the following measures:

- 1)** To conduct through the authorized organisation SNA the analysis of the air accident in question with the flight personnel
- 2)** Before the start of the flight day to conduct a thorough analysis of planned tasks with stress on early selection of areas for ground landing.

Bratislava, 24 September 2010