

FINAL REPORT

Investigation of glider accident, Registration Mark D-2802 on 1st August 2008

Prague
September 2008

The report's information, findings and conclusions concerning the aircraft accident or system failures endangering operational safety are solely of informative nature and can only be used as recommendations to prevent similar accidents due to similar causes. The author of the Final report states explicitly that it cannot be used to lay the blame or responsibility for the accident on anyone or to file insurance claims.

A) Introduction

Operator: Segelfliegerclub Greifswald, Germany
Aircraft manufacturer and model: PDPS Bielsko-Biala, Poland, type SZD-51-1 Junior
Registration Mark: D-2802
Place of incident: West village Strážné, Czech Republic
Date and time: 1st August 2008, 11:04 (all times are UTC)

B) Synopsis

On 1st August 2008, AAll Czech Republic was notified about glider accident of German operator, Reg. Mark D-2802 on West a village Strážné. The glider was damage and pilots was a serious injured during the accident.

The final report on the incident issued AAll based :
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The cause of the accident was investigated by an Air Accidents Investigation Institute commission comprising:

Commission chairman: Mr. Ing. Lubomír Střihavka, AAll
Commission member: Mr. Milan Pecnik, AAll
Mr. Ing. Miloslav Kinc, inspector AeCR

C) The report includes the following main parts:

- 1) Factual information
- 2) Analysis
- 3) Conclusions
- 4) Safety recommendation
- 5) Other Annexes (to copy No.1 stored in AAll archive)

Abbreviations used:

<i>AAll</i>	-	<i>Air Accidents Investigation Institute of the Czech Republic</i>
<i>AeCR</i>	-	<i>Aeroclub of the Czech Republic</i>
<i>AGL</i>	-	<i>above ground level</i>
<i>AMSL</i>	-	<i>above mean sea level</i>
<i>CHMÚ</i>	-	<i>Czech Hydrometeorological Institute</i>
<i>LKVR</i>	-	<i>Vrchlabi airport</i>
<i>MTOM</i>	-	<i>maximum take-of mass</i>
<i>OLZ</i>	-	<i>Certificate of Airworthiness</i>
<i>PPL</i>	-	<i>private pilot license</i>
<i>QFE</i>	-	<i>Atmospheric Pressure at Aerodrome Elevation</i>
<i>RWY</i>	-	<i>runway</i>

1 Factual information

1.1 History of the flight

The woman pilot took off from Vrchlábí Aerodrome (LKVR) by means of tow flight at 9:09. A tow airplane type Zlin Z-226, registry OK-KMJ was used for towing. The glider was released over the village Čistá, cca 3 km east of LKVR at altitude 600 m AGL. After releasing the glider from the tow airplane, the pilot was flying in airspace north-east of the town Vrchlábí over the Strážné village and over the slopes of Krkonoše mountains. It was found out from the on-board Logger record that cca 15 minutes before the accident the glider flew over a valley leading to the village of Špindlerův Mlýn, at a height 1,000 m AMSL. Then the flight trajectory turned 180 deg. back toward the Strážné village. After the turn height of flight was from 900 to 1,000 m AMSL, but during the distance flown, cca 3.5 - 4.0 km, the height dropped for 150 to 200 m. All of the witnesses present nearby the accident site agreed on the estimated height of 20 to 30 m AGL.

The flight lasted 1:51 h from take-off to the accident. According to the witnesses, the glider hit one of the trees 15 m high and got stuck in it. After about 30 minutes the glider set free by itself and fell down on the hard soil under the tree and was destroyed, causing injuries to the pilot.



Glider on the tree



Glider on the ground

1.1 Injuries to persons

Injuries	Crew	Passengers	Others (inhabitants, etc)
Fatal	0	0	0
Serious	1	0	0
Light/no injury	0/0	0/0	0

1.3. Damage to Glider

Owing to the collision of the glider with the tree, the following glider's parts were damaged: surface of both of the half-wings, the primary structure of the left half-wing, and the fuselage structure past the wing was partly broken. The canopy was ripped out, the fore fuselage was destroyed, and the left half-wing's hinge was torn off in the crash. The tail plane primary structure was not damaged, the skin was scratched slightly.



Glider damage

1.4 Other damage

No other damage.

1.5 Personnel information

Pilot age/sex	19 y. / woman
Qualification	PPL (C)
License validity	valid
Medical certificate	valid, no limits
Total practice on gliders	5 years
Number of hours flown on gliders	cca 75 Hrs

The pilot kept a notebook of her flights. From the records it was possible to know the total number of flying hours, number of flights, and take-off places. The last but one flight from LKVR aerodrome lasting 2:32 Hrs was executed on 26th July 2008.

The pilot belonged in a team of pilots from a German flying club who flew their own gliders at LKVR aerodrome.

1.6 Aircraft information

Registration mark	D-2802
Manufacturer	PDPS Bielsko-Biala, Poland
Year of production	1989
Serial number	B-1844

The plane is a one-seat glider with MTOM 380 kg. The fuselage and wing are laminate structure. The empty glider mass was checked on 3rd March 2006, it weighted 265.1 kg. The German Aviation Authority issued airworthiness certificate no. S 2802 on 27th March 1991. Its validity was verified by an inspection record of 25th March 2008 valid up to March 2009.

1.7 Meteorological information

Description of the meteorological situation has been based on LKVR records and a report by ČHMÚ. Visibility was better than 10 km, variable wind 2–3.5 m/s, 130–230°, temperature 27°C. At the time of the event the wind at LKVR was 1.9 m/s, direction 206°, pressure (QFE) at 9:00 was 956 mb.

Light conditions: day

1.8 Aids to navigation

NIL

1.9 Communications

NIL

1.10 Aerodrome information

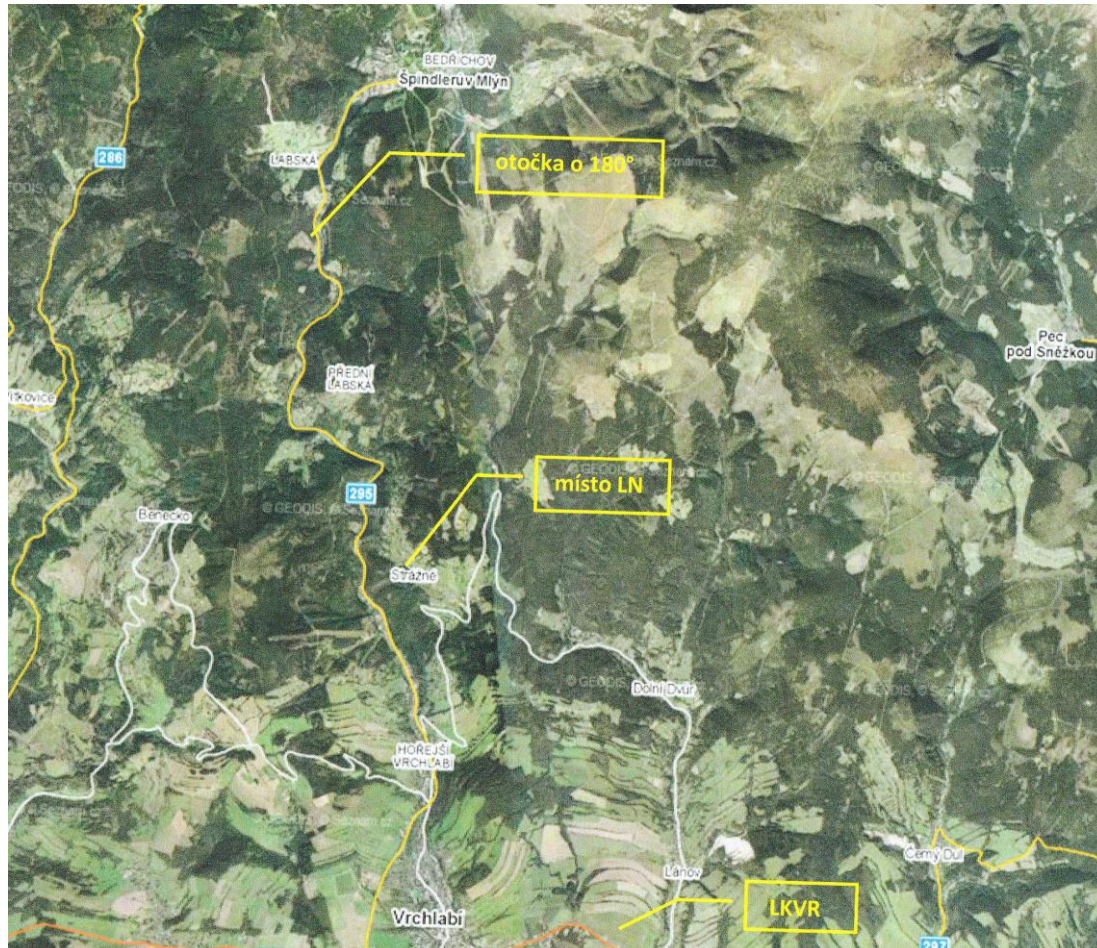
LKVR Aerodrome is a public domestic airport with RWY 11/29 measuring 840 x 125 m., grassy operation surface. The airport is situated at the foot of southern Giant Mountains (Krkonoše), 419 m AMSL. The neighbouring mountains are 800 – 1,400 m AMSL.

1.11 Flight recorders

Onboard the glider was a recording device Logger-LX20 GPS, S/N FIL-10218. The device was disconnected and removed from the wreck after the Investigation Commission had arrived. It showed no visible damage and the data recorded could have been evaluated. The recording was evaluated by means of a computer and programme offered by the German flying club. The Commission secured a chart copy of the latest recording.

1.12 Description of accident site

The accident happened on the western side of the village Strážné, near to a boarding-house at 768 m AMSL (N50° 40'4.356'' E15° 36'5.784''). The accident locality is cca 5.5 km straight line from LKVR.



Following the fall the glider lay on its back. The fore fuselage was heavily damaged by the impact, the left half-wing was turn off the hinge. Fastening belts were disconnected. The rescue parachute was attached to the harness and had not been used. Air brakes were extended on both half-wings, to which corresponded the control stick position in the cabin. The glider longitudinal balance was slightly "on head". When the Commission arrived, the pilot was not in the glider wreckage or at the site of accident. In the surrounding there are meadows and grassy areas with dimensions large enough for a glider to land, sloping down 5 – 15°.



Position of stick to command air brakes and lengthwise balance

1.12.1 Altimeter data

The value indicated on the barometric pressure scale was 954 mb and the altimeter pointer indicated 340 m.



Altimeter

1.13 Medical and pathological information

Emergency rescue service record shows that the pilot had her left leg broken and her right shoulder contused. The pilot was injured following the glider hit the ground after it had fallen off the treetop.

1.14 Fire

NIL

1.15 Survival aspects

No search was organized. The accident witnesses called in by phone Emergency Rescue Service, Police of the Czech Republic and Mountain Rescue Service. The rescue commander decided on the spot to call out an extending ladder appliance based in the town of Trutnov rather than a helicopter. However by the time the help came, the glider dropped down through the toptree and the ladder was called off. The pilot was first-aided under the tree and transported to the hospital in Hradec Králové for health examination.

1.16 Tests and research

NIL

1.17 Organizational and management information

The pilot was not heard by Police of the Czech Republic or by the Investigation Commission. She left the Czech territory the day following the accident.

1.18 Additional information

NIL

1.19 Useful or effective investigation techniques

The incident has been investigated according to L 13 National Regulation (Investigation into Air Accidents and Incidents of the Czech Republic) as per recommendation of ICAO (Annex 13).

2 Analyses

- the pilot was qualified for the flight and had a valid medical certificate;
- meteorological conditions were good for the flight;
- the take-off had no influence on the accident;
- the glider had a valid airworthiness certificate;
- the glider did not exceed its maximum take-off mass;
- examining the glider's parts, no technical failure was found;
- the altimeter was probably set to QFE at LKVR valid for 09:00 h, i.e. at the time of TKOF;
- the record of the last flight phase showed that due to the way the flight was executed the altitude decreased by around 150 – 200 m, so the height over the village of Strážné was not sufficient to fly as far as the LKVR aerodrome. Between the village of Strážné and the LKVR Aerodrome there are mountains Strážná Hůra (824 m AMSL) and Jankův Kopec (694 m AMSL), which are higher than the glider's real height was;
- judging from the extended air brakes, the pilot probably wanted to terminate the flight by landing onto the ground.

3 Conclusions

The accident was probably caused by using a wrong flying technique when landing on the ground, which lead to hitting the treetop ahead of the place chosen for landing. The pilot underestimated conditions of flying a glider in the mountainous terrain.

4 Safety recommendations

I make no safety recommendation.

Prague 23rd September 2008