



**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: SKA2010011

F I N A L R E P O R T

on air accident investigation

Aircraft type **LAK-19**

Registration No **LY-GED**

Date: 08.07.2010

Place: area of Horna Stubna

A. INTRODUCTION

The investigation of an 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.

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:	Lietuvos sklandymo sporto federacija Pociūnai, Prienu raj. LT-4345, j.k. 9193942
Type of aircraft:	LAK-19
Registration No:	LY-GED



Place of take-off:	LZPE
Place of planned landing:	LZPE
Flight phase:	competitive flight – circling, spin entry
Place of accident:	area of Horna Stubna, under the peak of the hill Spiciak N 48°49,834 E 01°8'54,753
Date and time of accident:	08.07.2010, 11 h 50 min

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

B. INFORMATIVE SUMMARY

On 8 July 2010 at 11,50 am the pilot of the aircraft LAK-19, registration No LY-GED, carried out the search for upward streams at low terrain clearance at the foot of the hill Spiciak in the area of Horna Stubna. In this flight phase the aircraft entered a spin from a right-hand turn. The aircraft fell in the forest cover.

When the aircraft crashed into the forest cover the pilot suffered injuries incompatible with life.

The air accident was notified by witnesses of the accident to the competition organizer, who reported it to the Police Department in Turcianske Teplice, Rescue Co-ordination Centre in Bratislava („IZKSL“) and to the Air accidents and Incidents Investigation Board.

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

Ing. JANCULA Maros

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

In the days of 4 July 2010 – 17 July 2010 the 31st FAI World Gliding Championship 2010 („31st FAI WGC 2010“) took place at the airport Prievidza („LZPE“).

On 8 July 2010, when accomplishing a competition task, the pilot of the aircraft **LAK-19**, registration No LY-GED (competitive sign "**DL**"), together with other competitive aircraft, searched for upward currents at low terrain clearance and with low speed of 75 – 80 km/h at the foot of the hill Spiciak in the area of Horna Stubna. When it finished a right-hand turn at low speed of 70 km/h, the aircraft entered a spin that the pilot was unable to master for the reason of low flight altitude and rough mountain ground. The aircraft fell into the forest cover and stayed locked between trees.

The accident witnesses (pilots of aircrafts circling in higher altitude) informed about the air accident the organizer of the 31st FAI WGC 2010, who reported it to the Police Department in Turcianske Teplice, IZKSL and the Air accidents and Incidents Investigation Board.

The pilot with the wreckage was found by witnesses from the nearby quarry, who called the health rescue service, the police and firemen.

Daytime: Day

Flight rules: VFR

1.2 Injuries to persons

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

1.3 Damage to aircraft

After the crash in the forest cover, the left wing of the aircraft LAK-19 "DL" was completely broken in a distance of approximately 70 cm from the shank, but the water ballast discharge valve remained undamaged. The right wing was completely broken in a distance of 4 m from the shank and 1 m from the end, and the water ballast valve was damaged in the open position. The pilot cabin of the aircraft body was destroyed; the body tube was broken in a distance of 1 m from the transition area to the keel. The attachment of wing stubs in the midsection did not show any visible damage. The water ballast discharge valve in the keel was undamaged. Water remainders were detected in the keel reservoir. The attachment of horizontal stabilizer was undamaged. The right side of horizontal stabilizer and horizontal rudder was completely broken off.

After the air crash the aircraft was completely destroyed.





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 LY-GED:

Citizen of the Russian Federation, age: 36 years,
Holder of the personnel licence GPL No 000287, issued by DOSAAF of the Russian Federation on 9 February 2010, with marked validity until 9 February 2011.

Qualifications: gliders GLD: L-13, Jantar-Standart, Jantar 2B, LAK-12, LAK-19.

Medical certificate of 2nd class with marked validity until 27 April 2011.

Flying experience:

Total flying hours:	1 031 h 14 min
Aircraft type LAK-12:	102 h 12 min
Aircraft type LAK-19:	25 h 57 min
On the day of air accident:	1 h 48 min

1.6 Aircraft information

Type:	LAK-19
Registration No:	LY-GED
Serial No:	007
Year of manufacture:	2003
Manufacturer:	AB "Sportinė aviacija", Lietuvos Respublika

Total time and number of flights from the year of manufacture: 821 h 55 min and 245 flights

Third party liability insurance valid from 28 June 2010 to 18 July 2010.

The aircraft was put into operation on 23 June 2003 by issuance of the certificate of airworthiness No 01094 and the certificate of entry into the aircraft register of the Republic of Lithuania No 01094 that was issued by the Civil Aviation Authority of the Republic of Lithuania.

The certificate of airworthiness No 01094 was valid until 18 May 2011.

Calculation of aircraft weight at the time of air accident

Empty weight of aircraft	241.9 kg
Weight of crew	78.0 kg
<u>Weight of water ballast: approx. 158.5 l x 0.999 kg/l</u>	<u>158.4 kg</u>

Total aircraft weight at the time of AA	478.3 kg
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The aircraft weight at the time of accident was within the permitted range.

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, 0 – 1/8 Cu with lower base of approx. 1 700 m QNH, with average increases of 1.5 – 2.5 m/s and visibility more than 10 km. At the time of AA, the ground wind from direction of 020° and achieved the speed of 3 KT. The ground air temperature in given area was approximately + 28°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

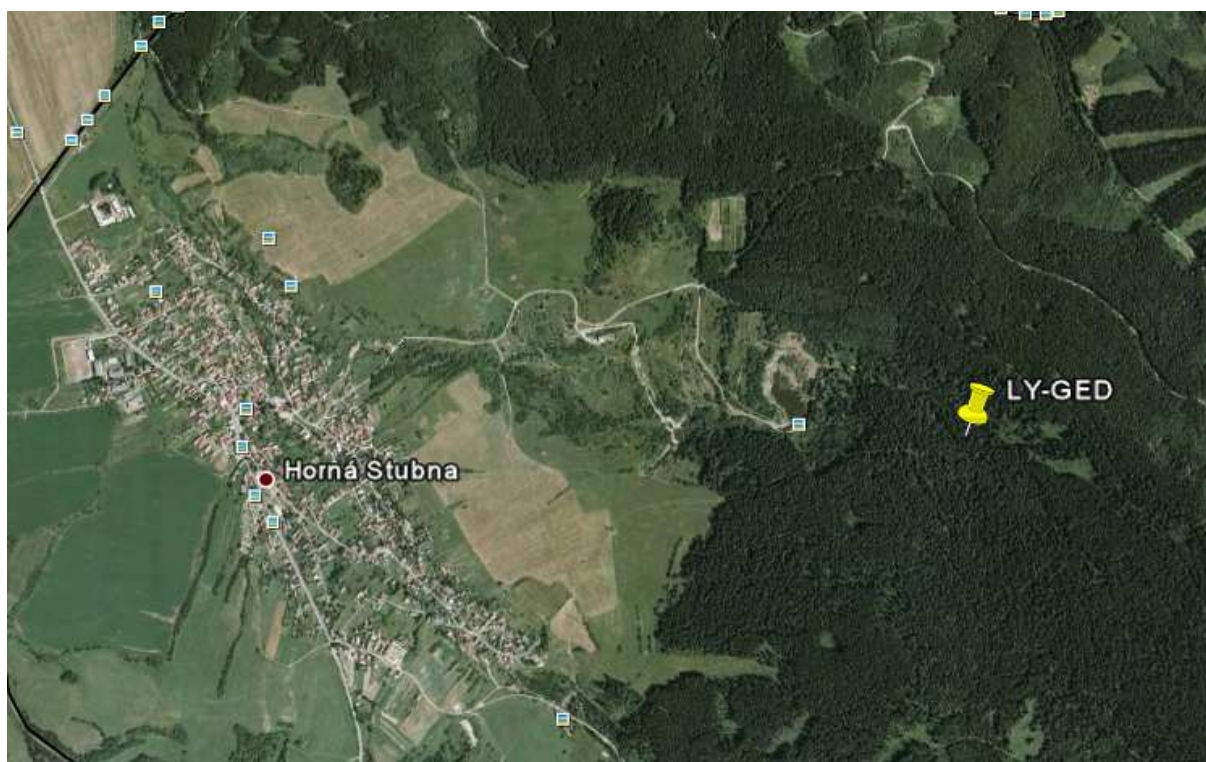
The aircraft **LAK-19 "DL"** was equipped by the COLIBRI system (IGC-approved GNSS flight recorder).

1.12 Wreckage and impact information

The place of accident was situated just below the peak of the hill Spiciak in the area of community of Horná Stubna, in a spruce forest in the north-east slope near a clearance with dimensions of 5 x 5 m, left from a climbing access road.

The wreckage was locked on the ground in a group of five 20-years old spruces and the pilot cabin was found near the central spruce. Wings of the wreckage got stuck in both side spruces. The body was broken behind the cabin, the rudder and the elevator were torn off, but connected with the body by control cables.

The final position of the aircraft after the air crash was documented, including elaboration of photodocumentation.



1.13 Medical and pathological information

The pilot died on the place of air accident due to extensive injuries caused by collision of the aircraft with the ground. At the time of air accident he was not under influence of alcohol, drugs or common medicaments.

1.14 Fire

Not applicable.

1.15 Survival aspects

The search in the place of accident was activated by the organizer of the 31st FAI WGC 2010 (two towing aircraft from the Prievidza Airport and a helicopter ("Kristof") of the Helicopter emergency medical service from the Trencin Airport) and through IZKSL (a helicopter of the Army of the Slovak Republic from the airbase in Presov).

The pilot with wreckage was found by witnesses from the nearby quarry who called the health rescue service, the police and firemen.

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

According to the flight manual of aircraft **LAK-19** the recommended speed for circling is 95 to 105 km/h depending on the bank and weight of aircraft. In flights at low speeds a sudden change of position of ailerons or rudder angle will cause the transition to a spiral descent, slip or spin depending on the position of centre of gravity.

The loss of altitude at immediate recovery from the initial spin during circling is 60 m.

2.2. Crew

According to submitted documentation, the pilot of aircraft **LAK-19 "DL"** had valid qualifications for flights with aircraft of given category.

The pilot conducted competitive flights with leased aircraft type LAK-19 according to submitted documentation for the first time during the 31st FAI WGC 2010, with flight experiences of 25 h 57 min with given type of aircraft.

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 LAK-19 "DL" took place in an environment that can be characterized from meteorological view as stable weather without precipitation, with weak thermal streams 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. **C O N C L U S I O N S / Cause of air accident**

The pilot of aircraft **LAK-19 "DL"** searching for upward streams while circling entered a spin at a low speed and in a low altitude above a rough mountain ground.

The pilot was on a flight with the aircraft **LAK-19 „DL“** at speeds lower than recommended by the flight manual for given type of aircraft.

The pilot did not master the spiral dive above a rough mountain ground.

4. **SAFETY RECOMMENDATIONS**

Following the investigation of causes of the air accident of

Aircraft type **LAK-19**

Registration No **LY-GED**

Date of accident: **8 July 2010**

We recommend to take the following measures:

1) To conduct through the authorized organisation SNA - Slovak National Aeroclub 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, 4 October 2010