



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

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

Reg. No: SKA2010005

FINAL REPORT

on air accident investigation
of helicopter type **CH 7 Kompres**
registration: **OM – M415**

Date: 29 May 2010

Place: Piešťany Airport

A. INTRODUCTION

The investigation of an 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 Air 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:	Deliber, s.r.o. Kragujevská 4, 010 75 Žilina
Type of helicopter:	CH-7 Kompres
Registration:	OM – M415
Place of take-off:	Piešťany Airport ("LZPP")
Place of planned landing:	LZPP
Flight phase:	hovering mode
Place of accident:	LZPP N 48°38'1.01" E 17°49'59.78"
Date and time of accident:	29.05.2010, 15:48 hrs

Note: All times in this Report are UTC.

B. INFORMATIVE SUMMARY

On 29 May 2010, at 15:48 hrs during final flight demonstrations during the 4th National Aviation Days in Piešťany, an ultralight helicopter of CH-7 Kompres type was damaged. It was damaged during hard landing when the helicopter was transferred in a low height in front of the holding point of the runway No 19. Nobody was injured.

The air accident was reported by the organizers of the aviation day to the Air Accident and Incident Investigation Board.

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

Ing. JANČULA Maroš
Ing. TÓTH Jozef

The report is issued by:

Air Accident and Incident 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 29 May 2010, at 15:48 hrs, the pilot of an ultralight helicopter of the CH-7 Kompres type transferred the helicopter in a low height from the parking area on the runway B, where it stopped 25 m in front of the line marking the holding point of the runway 19 of LZPP and waited for the permission to take-off. When he received information from the controller that he would have to wait approximately 10 min, the pilot partially opened the glass cockpit hood of the cabin to improve the aeration of the overheated cockpit. After waiting one minute he was asked by the controller to transfer the helicopter in the north direction from the holding point. The pilot put the helicopter into hovering position in a height of 1 m with partially opened cockpit hood. Once the helicopter was in a hovering position, under the influence of increased air flow in the primary rotor reflected from ground the cockpit hood started to open upwards. In the effort to prevent the cockpit hood from being fully open and getting caught by primary rotor blades, the pilot reached for the hood frame with his hand. He tried to take hold of the hood frame with his left hand, whereby he released the propeller-control lever of the primary rotor that was not locked, and probably also the cyclic pitch lever, which is proved by the inclination of the helicopter to the right and backwards. In this position the helicopter fell uncontrollably from the height of 1 m to the boundary of the runway „B“ and the grass area of the airport. Subsequently, the blades of the tail rotor came into contact with the ground.

1.2 Injuries to persons

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

1.3 Damage to helicopter

After the fall to the ground the helicopter remained in one piece and was not separated into the individual parts. The ground impact caused deformation of the skid landing gear and damage to tail rotor, end reductor, tail boom and horizontal tail planes.

1.4 Other damages

The Air Accident and Incident 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 helicopter:

Citizen of Slovak Republic, aged of 43.

A holder of the private helicopter pilot licence PPL(H), issued by the Civil Aviation Authority of SR on 13 May 2010.

Type qualification: single-pilot helicopters Robinson R 22

Date of last examination: 10.05.2010

A holder of the pilot licence issued by the Light Aircraft Association of Czech Republic on 21 January 2009 with qualification of a pilot of ultralight helicopter (UH).

Flying experience:

Total flying hours: 373 hrs

Flying time of which were on type Kompress: 281 hrs

Flying time of which for the last 90 days: 51 hrs

1.6 Aircraft information

a) Airframe

Type: CH-7 Kompress

Registration: OM-M415

Serial No: 173

Manufacturer: St.da Traforo del Pino 102,10132 TORINO Italy

Total flying hours from the year of manufacture: 246 hrs

Third party liability insurance: valid from 1 January 2010 to 31 December 2010.

Aircraft station licence No: 9810791119 with marked validity until 31 December 2016.

By its design and according to the flight manual issued by the manufacturer the helicopter is designed for sport and pleasure flights with maximum take-off weight of 450 kg.

The helicopter was put into operation on 15 October 2008 by issue of the certificate of airworthiness No RS 104 and by entry into the register of LŠZ SFUL, according to the authorization No 3/2006 – P issued by the Civil Aviation Authority of the Slovak Republic.

b) Engine

Type: ROTAX 914 Turbo 115 HP

Serial No: 5 647 934

Manufacturer: BRP-ROTAX GmbH & Co. KG
Welser Straße 32
A-4623 Gunskirchen, Austria.

d) Calculation of aircraft weight at the time of air accident

Empty weight of helicopter 280.0 kg

Weight of pilot 85.0 kg

Weight of fuel: approx. 40 l x 0.72kg/l 29.0 kg

Total helicopter weight at the time of accident **394.0 kg**

The frame of the all-glass cockpit hood opens upwards by turning in two hinges situated in the front fuselage of the helicopter. In the closed position the cockpit is locked by two simple turn-locks on both sides of the cockpit frame.



1.7 Meteorological situation

Variable wind from north, north-west direction with speed of 36 km/h. Visibility more than 10 km, low-level clouds with base in the height of 1 500 m.

1.8 Aids to navigation

The helicopter was equipped for flights in VFR conditions. The operation of ground navigation systems did not influence the air accident.

1.9 Communications

The helicopter was equipped by an on-board radio station enabling a two-way communication at any moment of the flight with all air stations. At the moment of accident communication with the air traffic controller at LZPP was running on the frequency of 125.45 MHz.

1.10 Aerodrome information

LZPP is a public international airport at which the aviation day permitted by the Civil Aviation Authority of SR was taking place. Pre prevádzku lietadiel sa používala RWY 01/19 was used for aircraft operation.

1.11 Flight recorders and other recording systems

The helicopter was not equipped by any flight recorders.

1.12 Wreckage and impact information

The helicopter fell on the boundary of the bitumenous runway "B" and the grass surface of the airport.

The place of accident is delimited by the coordinates: N 48°38'1.01", E 17°49'59.78".

The final position of the helicopter after the accident was documented, including the elaboration of photo documentation.



1.13 Medical and pathological information

The pilot was not injured, no medical check was needed.

After the accident the pilot underwent the breath test for alcohol with negative result.

1.14 Fire

No fire broke out.

1.15 Survival aspects

The search and rescue using SAR devices was not necessary. The witnesses at the airport watched the helicopter and identified the place of air accident.

The structure of the landing gear and its subsequent partial deformation absorbed the impact energy and thus mitigated the effects of overloading on the pilot's body without consequences for his health condition.

1.16 Tests and research

Tests or expert inspection of the helicopter were not required.

1.17 Organizational and management information

The flight of the helicopter was a part of flight demonstration according to the schedule of the authorized event.

1.18 Useful or effective investigation techniques

Standard investigation methods were used.

2. ANALYSIS

2.1. Activity of pilot

From the pilot's statement is results that in view of the increased temperature in the cockpit he decided to partially open the cockpit hood when he was waiting for the permission to take-off. Upon request of the air traffic controller to transfer the helicopter from the holding position on the runway 19 the pilot put the helicopter into hovering position not realizing that the cockpit hood was partially opened. Due to increased air flow in the primary rotor reflected from the ground the cockpit hood opened upwards. The pilot inadequately reacted to the situation when he tried to handle it by closing the cockpit hood during take-off and did not pay attention to helicopter flying.

3. CONCLUSIONS

3.1 Causes of air accident:

The pilot failed to make sure that the cockpit hood was closed before he put the helicopter into the hover condition.

The pilot incorrectly evaluated the situation.

The pilot paid insufficient attention to helicopter flying when the helicopter was in hover condition.

4. SAFETY RECOMMENDATIONS

The final report from investigation of the air accident does not contain any recommendations.