



**MINISTRY OF TRANSPORT,  
CONSTRUCTION AND REGIONAL DEVELOPMENT  
OF THE SLOVAK REPUBLIC**

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

**No.: SKA2010025**

**FINAL REPORT**

on investigation of an air accident

of aircraft type **PA 34 – 220T**

registration No. **D-GACR**

Date: 22.10.2010

Place: LZIB RWY 13

## 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 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

Owner:	Ing. Willy Koblizek Praterstraße 35/26, A-1020 Wien
Type of aircraft:	PA 34 – 220T
Registration No:	D-GACR



Place of take-off:	M. R. Štefánik Airport Bratislava ("LZIB")
Place of planned landing:	Wr. Neustadt Airport / Ost ("LOAN")
Flight phase:	takeoff
Place of accident:	LZIB RWY 13, N 48°10'01,93'' , E 017°13'04,81''
Date and time of accident:	22.10.2010, 14:56 hrs

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

## **B. INFORMATIVE SUMMARY**

On 22 October 2010 the crew of aircraft Piper PA 34 – 220T, reg. No. D-GACR, performed take-off from the runway 13/31 ("RWY 13"). In the phase of take-off roll at a speed of 65 – 75 KTS uncontrollably banked to the left, touched the runway with its left wing and lifted off, with the nose rising to the height of 3-4 m. Subsequently the aircraft landed again on RWY 13 in the direction of take-off, where it stopped and remained standing in the right half of RWY 13 with landing gear in the intermediate position in the retraction cycle.

Nobody was injured.

The M. R. Štefánik Airport Bratislava (BTS) reported the air accident by phone to the Air Accident and Incident Investigation Board.

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

Ing.Igor Benek

Ing.Ladislav Grell

The report is issued by:

Air Accident and Incident Investigation Board  
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**

On 22 October 2010 the crew of aircraft D-GACR was permitted to perform a flight from LZIB to LOAN. Having received permission from the control tower, it rolled to the threshold of RWY 13. During rolling the crew performed tests of brakes, steering actuation, flap lowering to the take-off position and other devices required for performance of the flight. According to the pilot's statement the aircraft was showing no deviations before the take-off.

The crew received permission from the control tower for take-off from RWY 13. During take-off roll at a speed of 65 – 75 KTS the aircraft uncontrollably banked to the left, touched the runway with its left wing and lifted off, with the nose rising to the height of 3-4 m. The crew solved this unusual emergency situation by maintaining the aircraft in the direction of take-off; it switched propeller levers to the position "IDLE" and switched off the engines.

The aircraft landed again on RWY 13 in the direction of take-off, where it stopped and remained standing in the right half of RWY 13 with landing gear in the intermediate position in the retraction cycle.

The crew got out of the aircraft unaided and reported the incident to the control tower.

Daytime: Day

Flight rules: VFR

### 1.2 Injuries to persons

Injury	Crew	Passengers	Other persons
Fatal	-	-	-
Serious	-	-	-
Minor	-	-	-
None	2	2	

### 1.3 Damage to aircraft

The aircraft suffered extensive damage – damage to the carrier and bottom part of aircraft body, forced engine shutdown, bent ends of both propeller blades.





#### 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.

## 1.1 Personnel information

### Pilot - PIC

Citizen of Austria, aged of 35

holder of the aviation personnel licence CPL No: A-17281-JAR issued by Austro Control GmbH.

Qualifications: SEP(L) with marked validity until 15 November 2010

MEP(L) with marked validity until 29 November 2010

TMG with marked validity until 15 November 2010

Medical certificate of 2<sup>nd</sup> class valid until 22 October 2013.

### Second pilot – Examiner

Citizen of Austria, aged of 49

holder of the aviation personnel licence CPL No A- 2719-JAR issued by Austro Control GmbH.

Qualifications: SEP(L) with marked validity until 22 April 2012

MEP(L) with marked validity until 22 April 2011

TMG with marked validity until 22 April 2012

FI(A) with marked validity until 22 April 2012

CRI(A) with marked validity until 22 April 2012

Medical certificate:

Of 1<sup>st</sup> class with marked validity until 11 December 2010

Of 2<sup>nd</sup> class with marked validity until 11 December 2011

## 1.2 Aircraft information

Type: PA – 34 – 220T

Reg. No: D-GACR

Serial No: 34 -8133215

Year of manufacture:1981

Manufacturer: Piper Aircraft Corporation  
Vero Beach, Florida 32960, U.S.A.

Engines: 1. Continental L/H TSIO-360-KB  
2. Continental R/H LTSIO-360-KB

Propellers: 1. Mc. Cauley L/H 3AF 32 C 508/82 NFA-6  
2. Mc. Cauley R/H 3AF 32 C 509/L82 NFA-6

No problems with engines or propellers were reported to the investigation board, so no expertise was implemented.

Liability insurance valid from 1 May 2010 to 1 May 2011.

## 1.7 Meteorological situation

Not applicable.

## 1.8 Aids to navigation

Not applicable.

## 1.9 Communications

The aircraft was equipped by an aircraft radio station to allow two-way radiocommunication with all air stations at any moment. The two-way communication at the time of accident was running on FREQ 118.30 MHz LZIB.

### 1.3 Aerodrome information

LZIB is an international airport. The runway system of LZIB consists of two perpendicular runways. The runway 04/22 is 2 900 m long and 60 m wide. It is equipped by light and radionavigation systems for precision approach in conditions of ICAO Category I Weather Minima. The runway 13/31 is 3 190 m long and 45 m wide. It is equipped by light and radionavigation systems for precision approach in conditions of ICAO Category III Weather Minima. Both runways have concrete pavement. RWY 13/31 was used for operation of aircraft at the time of air accident and was suitable for performance of the critical flight.

RWY Designator	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
13	2 950	3 010	2 950	2 950	NIL
31	3 190	3 250	3 190	2 950	Starter strip 240 m

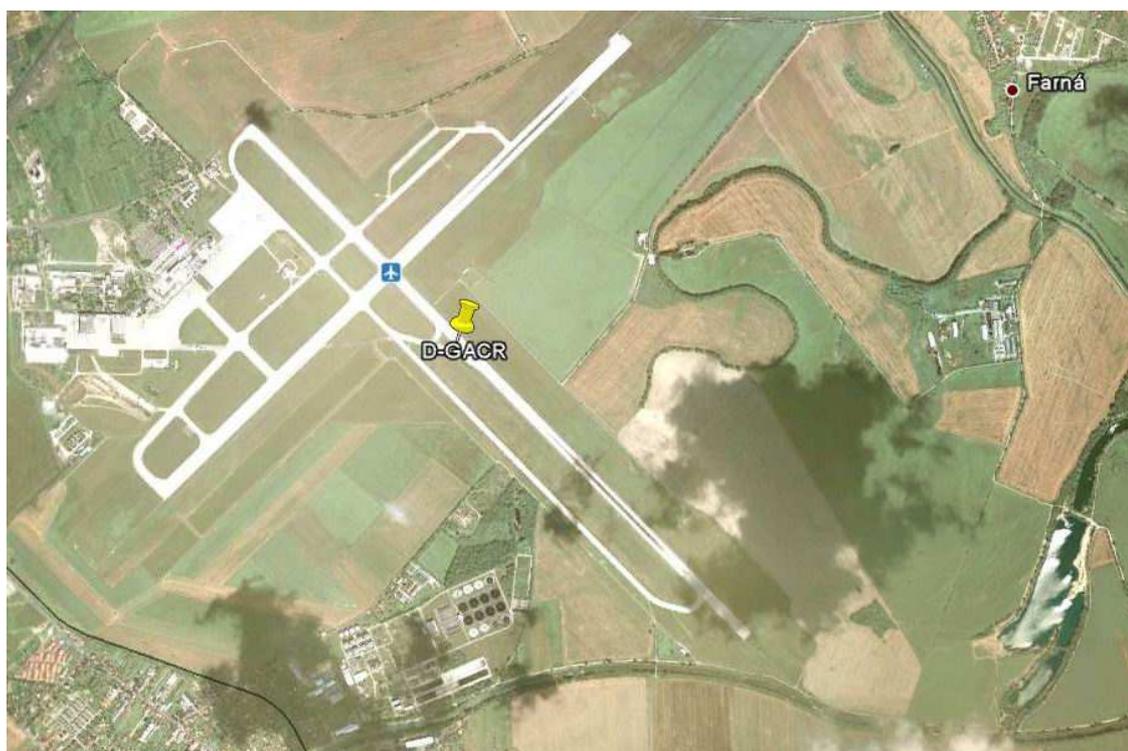
### 1.11 Flight recorders and other recording systems

Not applicable.

### 1.12 Wreckage and impact information

The damaged aircraft remained standing right from the centre line of RWY 13 with semi-retracted landing gear.

The final position of the aircraft after the air accident was documented, including preparation of photo documentation.



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

Not applicable.

#### 1.14 **Fire**

There was no fire.

#### 1.15 **Survival aspects**

Search and rescue were not required.

The persons on board abandoned the aircraft by their own forces.

#### 1.16 **Tests and research**

After the air accident the aircraft was transported to hangars of the company East Air Company s.r.o. for expert detection of failure (spontaneous landing gear retraction in the phase of take-off) of the function of landing gear retraction and extension.

The aircraft was placed on supports to allow free handling of the landing gear. After connection to external power supply the retraction and extension of landing gear were repeatedly tested. The tests detected excessive power take-off during landing gear operation, indicated by the decrease of light intensity of board Instruments and maximum deviation of ammeter on the external power supply. During this test the power circuit breaker of landing gear control reacted properly when it switched off at the moment of excessive power overloading.

On this basis the investigation of causes of the short-circuit of the landing gear control circuit was performed in the following sequence: power supply (external source, aircraft battery), circuit breakers, conductor terminals, conductors. After dismounting of the plastic cover of the landing gear position control the screw **MS35206C216** with washer **MS35333-70** laid loose on landing gear control contacts was found. After the removal of the screw the function of landing gear retraction and extension was tested again.

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

The operator of the international airport LZIB is the joint-stock company Letisko M. R. Štefánika - Airport Bratislava, a. s. (BTS) holding a valid operating licence. The activity of the airport rescue units during intervention was carried out according to valid procedures, in prescribed time-limits and in required quality.

The aircraft operator is a private person and the aircraft was not used for commercial purposes at the time of the incident.

#### 1.18 **Additional information**

Not applicable.

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

Standard investigation methods were used.

## **2. ANALYSIS**

### **2.1. General**

The pilot-in-command and the second pilot had valid qualifications and sufficient experiences for performance of the critical flight.

The aircraft was airworthy and did not show any failure just before the take-off.

### **2.2. Activity of crew**

The crew solve the emergency situation by landing in the direction of take-off, because the length of RWY 13 at given moment was sufficient to allow landing and stoppage of the aircraft on the runway.

It can be concluded from the statement of the crew members that the landing gear controller was not handled during the takeoff.

### **2.3. Aircraft – expert assessment of landing gear function**

During the search for causes of uncontrolled landing gear retraction at the running up stage the experts examining the landing gear function detected the presence of a screw laid loose on landing gear control contacts with a washer, that is commonly used for assembly of instruments on the instrumental panel. The inspection did not find a place where this screw type with washer is missing. Subsequently the screw was removed and the function of landing gear extension and retraction was repeatedly tested. The whole system of landing gear control was working without error or signs of increased power consumption.

The expert inspection of the aircraft did not detect any failures of the aircraft systems and all other damages to the aircraft were caused by the aircraft touchdown on the concrete runway with landing gear in the retraction phase (intermediate position).

## **3. CONCLUSIONS**

### **3.1 Findings**

The crew members held valid licences for performance of the critical flight.

The crew members properly applied the prescribed standard procedures for take-off from RWY 13.

The aircraft had a valid documentation and did not show any failures before the air accident.

### **3.2 Causes of air accident:**

Spontaneous landing gear retraction in the phase of ground roll caused by short-circuits of contacts of landing gear position control by a screw laid loose with washer.

## **4. SAFETY RECOMMENDATIONS**

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

Bratislava, 25 January 2011