



KÖZLEKEDÉSBIZTONSÁGI  
SZERVEZET

TRANSPORTATION SAFETY  
BUREAU

**FINAL REPORT**  
**2008-252-4**  
**SERIOUS INCIDENT**

**Budapest FIR**  
**26th August 2008**

**Boeing B-757-200 / Airbus A-320**  
**4X-EBU / TC-FBE**

The sole objective of the technical investigation is to reveal the causes and circumstances of aviation accidents, incidents or irregularities and to initiate the necessary technical measures and make recommendations in order to prevent similar cases in the future. It is not the purpose of this activity to investigate or apportion blame or liability.

## **The present investigation was carried out by the Transportation Safety Bureau of Hungary on the basis of**

- Act XCVII of 1995 on aviation,
- Annex 13 identified in the Appendix of Act XLVI. of 2007 on the declaration of the annexes of the Convention on International Civil Aviation signed in Chicago on 7th December 1944,
- Act CLXXXIV of 2005 on the technical investigation of aviation, railway and marine accidents and incidents (hereinafter referred to as Kbvt.),
- MET Decree 123/2005 (XII. 29.) on the regulations of the technical investigation of aviation accidents, incidents and irregularities;
- In absence of other related regulation of the Kbvt., in accordance with Act CXL of 2004 on the general rules of administrative authority procedure and service

The Kbvt. and the MET Decree 123/2005 (XII. 29.) jointly serve the compliance with the following EU acts:

- a) Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents,
- b) Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation.

The competence of the Transportation Safety Bureau of Hungary is based on Government Decree 278/2006 (XII. 23.).

## **Under the aforementioned regulations**

- The Transportation Safety Bureau of Hungary shall investigate the aviation accidents and the serious aviation incidents.
- The Transportation Safety Bureau of Hungary may investigate aviation incidents and irregularities which - in its judgement - would have resulted in accidents under other circumstances.
- The technical investigation is independent of any administrative, infringement or criminal procedures initiated in connection with the transport accident or incident
- In addition to the aforementioned laws, throughout the technical investigation ICAO DOC 6920 Manual of Aircraft Accident Investigation are applicable.
- The present final report shall not be binding, nor shall an appeal be lodged against it.

No conflict of interest has arisen in connection with any member of the investigating committee. Persons participating in the technical investigation shall not act as experts in other procedures concerning the same case.

The IC shall safe keep the data having come to their knowledge in the course of the technical investigation. Furthermore the IC shall not be obliged to make the data – regarding which its owner could have refused the disclosure of the data pursuant to the relevant act – available to other authorities.

## DEFINITIONS AND ABBREVIATIONS

ATC	Air Traffic Controller
ATS	Air Traffic Service
EC	Executive Controller
FIR	Flight Information Region
FL	Flight Level
GDC	Ground Controller
HC FSD	HungaroControl Flight Safety Department
IC	Investigating Committee
ICAO	International Civil Aviation Organization
Kbvt.	Act CLXXXIV of 2005 on the technical investigation of aviation, railway and marine accidents and incidents
MET	Ministry of Economy and Transport (Gazdasági és Közlekedési Minisztérium, GKM)
MTCW	Ministry of Transport, Communications and Water (Közlekedési, Hírközlési és Vízügyi Minisztérium, KHVM)
MTWM	Ministry of Transport and Water Management (Közlekedési és Vízügyi Minisztérium, KöViM)
NM	Nautical Mile
NTA, AD	National Transport Authority, Aviation Directorate
STCA	Short Term Conflict Alert
SV	Supervisor (Head of ATC on duty)
SVR	Ságvár
TSB	Transportation Safety Bureau
UTC	Universal Time Coordinated
VOR	Very High Frequency Omnidirectional Radio Range

## BRIEF DESCRIPTION OF THE OCCURENCE

<b>Occurrence category</b>		Serious incident	
<b>Aircraft</b>	<b>Manufacturer</b>	Boeing	Airbus
	<b>Type</b>	B757-200	A320
	<b>Registration</b>	4X-EBU	TC-FBE
	<b>Serial number</b>	26053	132
	<b>Operator</b>	EL AL Israel Airlines	Freebird Airlines
<b>Occurrence</b>	<b>Date and time</b>	26 <sup>th</sup> Aug. 2008, 07:52 UTC	
	<b>Location</b>	Budapest FIR, 20 NM south of SVR VOR	
<b>Number of</b>	<b>Fatalities</b>	0	
	<b>Seriously injured</b>	0	
<b>Aircraft damage</b>		Not damaged	
<b>State of registry</b>		Israel	Turkey
<b>Competent investigating organization</b>		TSB	

### Reports and notifications

The occurrence was reported to the dispatcher of the TSB at 10:00, 26<sup>th</sup> August 2008 by HungaroControl ATC SV.

### **THE DISPATCHER OF TSB:**

- reported to TSB's head of department on duty at 10:03, 26<sup>th</sup> August 2008, and
- notified the duty personnel of NTA AD at 10:07, 26<sup>th</sup> August 2008.

### Investigating committee

On 26th August 2008 the Director-General of the TSB assigned the following Investigating Committee (hereinafter referred to as IC) to the investigation of the serious aviation incident:

Investigator-in-Charge	Zoltán NÉMETH	investigator
Member	László PÁL	investigator

### Overview of the investigation procedure

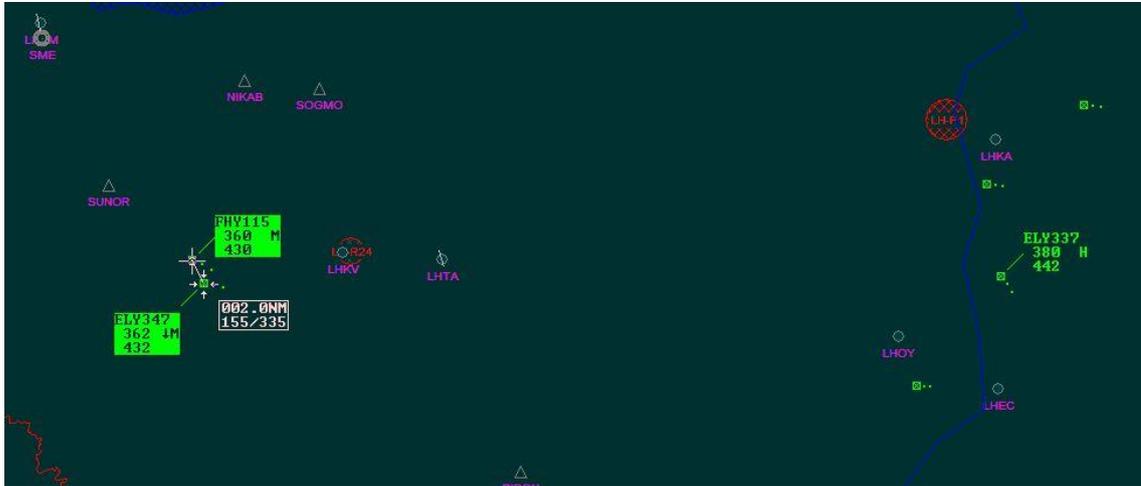
TSB during the investigation of the incident:

- requested the ATS provider to submit the recorded data relevant to the incident, thus especially the radio correspondence, the radar shots and the summary report compiled by the ATS provider and analysed these;
- requested further information on the captain's report and on the main technical and professional data of the aircraft and crew concerned.

### A short summary of the occurrence

Flight ELY347 descended from FL380 to FL340, and so got in a conflict with flight FHY115 flying below it on FL360.

The smallest separation between the two flights was 2 NMs on the same flight level.



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## **1. FACTUAL INFORMATION**

### **1.1 History of the flight**

ELY347 entered the Hungarian airspace at FL380 at point BABIT. Subsequently, ELY337 entered Hungarian airspace at point TONDO. Due to a misunderstood call sign mistake, ELY347 descended from FL380 to FL340 instead of ELY337 and so got in conflict with flight FHY115 flying below it on FL360.

### **1.2 Personal injuries**

There were no personal injuries.

### **1.3 Damage to aircraft**

The incident did not cause financially relevant damage in the given aircraft.

### **1.4 Other damage**

The IC did not receive any information on further damage by the completion of the investigation.

### **1.5 Information on the personnel**

#### **1.5.1 The captain of the aircraft**

The IC does not dispose of information regarding the captain of the aircraft.

#### **1.5.2 The first officer**

The IC does not dispose of information regarding the first officer of the aircraft.

### **1.6 Aircraft information**

The data of the aircraft had no effect on the course of events therefore their analysis was not required.

### **1.7 Meteorological data**

The crew of flight ELY347 reported weak to medium turbulence on FL380.

Other meteorological conditions had no effect on the course of events therefore their analysis was not required.

### **1.8 Aids to navigation**

The navigational instruments had no effect on the course of events therefore their analysis was not required.

### **1.9 Communication**

Both aircraft maintained two way radio correspondence with Budapest BT ("B" Top sector) ATC unit at radio frequency 135.205 MHz.

The ground based equipment operated according to the requirements, they were suitable for the given task.

## **1.10 Aerodrome information**

The parameters of the aerodrome had no effect on the course of events therefore their analysis was not required.

## **1.11 Flight recorders**

Regarding the equipment of ATC, the required data recorders were operating and the data recorded by them were usable.

## **1.12 Wreckage and impact information**

The incident did not result in a wreckage.

## **1.13 Data of the medical investigations**

There are no data available about the psychophysical state of the crew before and during the flight.

### **Medical forensics examination**

There was no medical forensics examination.

## **1.14 Fire**

There was no fire.

## **1.15 Chances of survival**

There were no personal injuries.

## **1.16 Tests and research**

Tests and researches were not initiated by the IC.

## **1.17 Organisational and management information**

The characteristics of the relevant organizations had no effect on the incident thus their analysis was not required.

## **1.18 Additional information**

The IC was not informed about any relevant additional information.

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

The investigation did not require techniques differing from the traditional approach.

## 2. ANALYSIS

The flight with call sign ELY347 entered Hungarian airspace at 07:28:15 UTC at point BABIT at FL380 and asked at 07:37:43 the ATC unit active in sector BT whether it had received a report about turbulence. The controller as a response called flight ELY337 that had entered Hungarian airspace at 07:33:45 UTC at point TONDO and was also flying in sector BT. The reply came again from ELY347 without giving its call sign who expressed its wish to descend to lower altitude due to turbulence.

Until 07:38:59 ATC was constantly giving permissions and instructions to flight ELY337. These were replied to consistently by ELY347 without giving its call sign. Thus the instruction to descend to FL340 addressed to ELY337 was carried out by ELY347 getting so in conflict with flight FHY115 proceeding in the same direction below it on FL360.

Flight ELY337 did not respond to either of the calls addressed to it and also it did not perform either of the instructions.

It became clear to ATC only at 07:40:12 UTC that the call signs had been mixed up. That was when he called flight ELY347 and instructed it to climb to FL370 while he gave new directions to flight FHY115 to solve the conflict.

## 3. CONCLUSIONS

### 3.1 Factual findings which can be directly linked to the occurrence

The air traffic controller misunderstood the flight number of the flight inquiring after turbulence.

ELY347 did not adhere to the rules regarding radio correspondence; it omitted its flight number constantly which went unnoticed by ATS.

ELY347 performed the descent as based on the instructions not addressed to this flight.

Flight ELY337 was continuously disregarding the instructions and permissions addressed to it.

### 3.2 Factual findings which can be indirectly linked to the occurrence

The work load of ATS induced by the traffic at the time of the incident can be considered as high.

EL AL Airlines operated two flights with similar call signs at a nearly identical route and almost at the same time.

## 4. SAFETY RECOMMENDATION

Efficient communication between pilots and ATC is indispensable for the safety of air traffic. That is why it is important to know in practice how to recognize and prevent communication failures and misunderstandings. For this reason:

**BA2008-252-4\_1:** The IC recommends HungaroControl that it incorporates the handling of the situation leading to the incident, e.g. flights with similar call signs and ensuing misunderstandings, into simulation practice.

In the opinion of the IC, efficient practice may enable ATS personnel to recognize the pilots' read out mistakes and call sign misunderstandings in time and to correct them in time.

1. Procedures for the ATS personnel provide the possibility for changing the call signs of aircraft with similar call signs. The aim of this is exactly to prevent call sign mistakes and misunderstandings. ATC did not make use of this opportunity during the incident investigated, thus:

**BA2008-252-4\_2:** The IC recommends that HungaroControl refreshes the knowledge of the ATS personnel about the utilization of the procedure, ensured by the Decree no. 16/2000. (XI. 22.) of the Minister of Transport and Water Affairs on the rules of air traffic control, providing the opportunity to change the radio communication call sign of the aircraft.

In the opinion of the IC, being more aware of this possibility will reduce the likeliness of similar occurrences.

## 5. APPENDICES

Appendix 1: Position of flights ELY347 and FHY115 when separation ceased to exist

Appendix 2: Radio correspondence between BT sector controller and the flights concerned.

Budapest, 30<sup>th</sup> July 2010

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Zoltán NÉMETH  
Investigator-in-Charge

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László PÁL  
Member of IC

## Appendix 1.



## Appendix 2.

Unit	Time (UTC)	Communication
ELY347	10:37:43	ELY347, do you have any turbulence report
BT EC	10:37:47	ELY337, Budapest.
ELY347	10:37:48	Do you have any turbulence report? We have still light to moderate turbulence 380.
BT EC	10:37:55	We have reported light turbulence and confirm you have light to moderate?
ELY347	10:37:59	Affirmative. Any possible lower level?
BT EC	10:38:04	ELY337, stand by.
ELY347	10:38:07	We are able 34...32.
BT EC	10:38:14	ELY337 what is your requested level?
ELY347	10:38:17	Requesting 340.
BT EC	10:38:21	Stand by, please.
BT EC	10:39:59	ELY337, descend flight level 340 and turn left 10 degrees.
ELY347	10:39:04	Left 10 degrees, it will be 280, descending 340.
BT EC	10:39:47	ELY337 descend flight level 340.
ELY347	10:39:49	ELY347 descending 340.
BT EC	10:39:52	You were told to turn left 10 degrees.
ELY347	10:39:56	Affirmative, I see the conflicting traffic.
BT EC	10:40:12	ELY347, Budapest

ELY347	10:40:14	347, go ahead
BT EC	10:40:15	ELY347, maintain flight level 370.
ELY347	10:40:20	We just passing 370.
BT EC	10:40:22	Climb back flight level 370.
ELY347	10:40:24	Climbing back 370.
BT EC	10:40:38	ELY347, climb back flight level 370.
ELY347	10:40:41	Roger climbing back 370.
BT EC	10:40:46	FHY115, turn right 10 degrees.
FHY115	10:40:50	Right 10 degrees, FHY115.
BT EC	10:40:53	FHY115, turn right 20 degrees.
FHY115	10:40:57	Further 20 degrees, FHY115.
FHY115	10:41:30	Budapest radar, FHY115.
BT EC	10:41:33	FHY115, go ahead.
FHY115	10:41:35	I have traffic same level 2 miles.
BT EC	10:41:39	Traffic climbing back flight level 370. It was misunderstood call sign mistake.
BT EC	10:41:49	FHY115, this traffic present time maintain 370 distance is 5,3 miles
FHY115	10:41:55	115.