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Interim Statement IN-036/2012

Incident involving a Boeing 737-800,
registration EI-EKV, operated by Ryanair,
while climbing to FL220 after taking
off from the Madrid-Barajas Airport
on 7 September 2012, at 07:40 local time



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SUBSECRETARÍA

COMISIÓN DE INVESTIGACIÓN
DE ACCIDENTES E INCIDENTES
DE AVIACIÓN CIVIL

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Important notice

This document constitutes the interim statement envisioned in Article 16.7 of Regulation (EU) no. 996/2010 of the European Parliament and of the Council, as well as in paragraph 6.6 of Annex 13 to the Convention on International Civil Aviation. The statement includes the details of the progress of the investigation and the most important operational safety issues revealed to date. The information provided herein is subject to change as the investigation proceeds.

Pursuant to the contents of Regulation (EU) no. 996/2010 of the European Parliament and of the Council and of Annex 13 to the Convention on International Civil Aviation, the investigation is purely technical in nature and is not intended to determine or apportion blame or liability. The investigation is being conducted without necessarily resorting to evidentiary procedures and for the sole purpose of preventing future accidents.

Consequently, the use of this information for any purpose other than to prevent future accidents may result in faulty conclusions or interpretations.

Abbreviations

| | |
|------|------------------------------------|
| APU | Auxiliary Power Unit |
| ATPL | Airline Transport Pilot License |
| CIMA | Aerospace Medicine Research Center |
| CPL | Commercial Pilot License |
| FL | Flight Level |
| ft | Feet |
| LT | Local Time |
| UTC | Universal Coordinated Time |

DATA SUMMARY**LOCATION**

| | |
|---------------|--|
| Date and time | Friday, 7 September 2012 at 07:40¹ |
| Site | Climbing to FL220 from Madrid-Barajas (LEMD) |

AIRCRAFT

| | |
|----------------|-----------------------|
| Registration | EI-EKV |
| Type and model | Boeing 737-800 |
| Operator | Ryanair |

Engines

| | |
|----------------|----------------------------------|
| Type and model | CFM international CFM56-7 |
| Number | 2 |

CREW

| | Captain | First Officer |
|--------------------------|----------------|---------------|
| Age | 36 | 21 |
| License | ATPL(A) | CPL(A) |
| Total flight hours | 5111 | 542 |
| Flight hours on the type | 3600 | 345 |

INJURIES

| | Fatal | Serious | Minor/None |
|---------------|-------|---------|------------|
| Crew | | | 6 |
| Passengers | | | 160 |
| Third persons | | | |

DAMAGE

| | |
|---------------|-------------|
| Aircraft | None |
| Third parties | None |

FLIGHT DATA

| | |
|-----------------|--|
| Operation | Commercial air transport - Domestic - Passenger |
| Phase of flight | En route - climb to cruising level |

INTERIM STATEMENT

| | |
|------------------|---------------------|
| Date of approval | 24 July 2013 |
|------------------|---------------------|

¹ All times in this report are local. To obtain UTC, subtract two hours to LT.

1. INFORMATION ON THE INCIDENT

On Friday, 7 September 2012, a Boeing 737-800 aircraft operated by Ryanair, EI-EKV, flying to Las Palmas de Gran Canaria (Spain) with 166 people onboard, took off from the Madrid-Barajas Airport (Spain) at 07:32. The takeoff was normal and weather conditions were good.

During the climb, both the cabin and cockpit crews simultaneously and without any communication between them, started to notice a strange sensation and felt physically sick. The purser, after confirming the situation with several crewmembers, decided to inform the captain. After calling him, the captain decided to stop the ascent and make an emergency descent. He dropped the oxygen masks, declared a MAYDAY due to what he perceived to be a pressurization problem and returned to Madrid. The use of the masks did not improve the pilots' condition.

The aircraft reached its maximum altitude of 21868 ft at 07:43, after which the crew started a continuous descent and landed. The maximum cabin altitude was 3930 ft and 10 minutes 30 seconds of flight time had elapsed since takeoff. The aircraft landed uneventfully in Madrid at 08:08, although the aircraft remained in a pressurized state. The front left door was opened at 08:17.

The emergency services, which had been notified, were waiting for the aircraft. The passengers disembarked normally and were taken to the terminal in shuttle buses. Of the 160 passengers, four were treated on the airplane by airport medical staff. Two of the passengers were taken to the Ramon y Cajal Hospital and released. The symptoms exhibited involved problems with the ears and throat, due to the rapid depressurization of the aircraft on the ground, as well as with anxiety.

2. PROGRESS OF THE INVESTIGATION

The investigation focused on identifying and analyzing the possible causes of the symptoms reported by the pilots and cabin crew.

- Analysis of the operation of the pressurization system on both the incident and on previous flights.
- Analysis of the symptoms reported by the crew from a medical standpoint in concert with the CIMA.
- Analysis of possible sources of contamination: food, actions (cleaning, etc.) involving the engines that could have resulted in substances being introduced into the air conditioning system, possible washing of the outside of the airplane, cleaning products

used to wash internal surfaces on the airplane, equipment used before takeoff (APU, jetway), actions involving the air conditioning system (cleaning, products used, etc.), possible halon leak from cabin fire extinguishers.

- Analysis of medical exams of the crew after the incident to look for specific symptoms.
- Analysis of medical exams of patients at the Ramon y Cajal Hospital that could indicate some type of intoxication by inhalation.
- Analysis of the flight from the standpoint of the aircraft's motion to assess its contribution to the symptoms, since the symptoms of hypoxia can be similar to those reported in motion sickness.

None of the aspects investigated so far has provided any objective information that can unequivocally account for the symptoms reported by the crew.

3. NEXT STEPS

The investigation is complete and the draft final report is in the writing phase.