

**DATA SUMMARY**

**LOCATION**

Date and time	<b>Monday, 7 June 2010; 12:00 local time<sup>1</sup>, approximately</b>
Site	<b>Girona Airport</b>

**AIRCRAFT**

Registration	<b>EI-DAX</b>
Type and model	<b>BOEING 737-800</b>
Operator	<b>Ryanair</b>

**Engines**

Type and model	<b>CFM 56-7B26 turbofan engines</b>
Serial Number	<b>2</b>

**CREW**

Pilot in command

Age	<b>42 years old</b>	<b>29 years old</b>
Licence	<b>Airline Transport Pilot License</b>	<b>Airline Transport Pilot License</b>
Total flight hours	<b>2,897:35 h</b>	<b>1,603:00 h</b>
Flight hours on the type	<b>2,290:14 h</b>	<b>1,264:00 h</b>

**INJURIES**

	Fatal	Serious	Minor/None
Crew			<b>6</b>
Passengers		<b>1</b>	<b>161</b>
Third persons			

**DAMAGE**

Aircraft	<b>None</b>
Third parties	<b>None</b>

**FLIGHT DATA**

Operation	<b>Commercial Aviation – Air Transport</b>
Phase of flight	<b>Boarding</b>

**REPORT**

Date of approval	<b>3 May 2012</b>
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<sup>1</sup> All times in this report are local. To obtain UTC, subtract 2 hours from local time.

## 1. FACTUAL INFORMATION

### 1.1. Description of accident

On 7 June 2010, while boarding a Boeing 737-800 airplane via the forward airstairs, a small girl who was in her father's arms fell from the top of the stairs through a gap between the handrail and the upper platform of said airstairs.

Later, after being treated by airport medical personnel, the girl embarked and flew to her destination where, after receiving treatment at a local emergency room, she was diagnosed with a small fracture of the ulna and radius in her left forearm.

### 1.2. Personnel information

Both pilots were properly licensed and rated for the activity they were carrying out.

### 1.3. Additional information

#### 1.3.1. *Description of the forward airstairs on the B-737*

Some Boeing 737 airplanes are equipped with retractable stairs at the forward left cabin door. These stairs allow passengers to board and disembark without the need for additional ground equipment. These stairs include a handrail on either side. To span the distance between the upper end of the handrail and the fuselage, extendable sections are manually attached to the fixed rails such that once the stairs are deployed, these sections are affixed to the door frame. Each extendable handrail is attached with an extendable strut that joins the handrail to a rail at the lower part of the platform (see Fig. 1).

#### 1.3.2. *Actions taken by emergency services personnel*

Personnel from the Lesma Handling Company, which provides handling services to Ryanair at the Girona Airport, in keeping with its "Medical Assistance Instruction" and once notified of the event, informed the Airport Coordination Center —CECOA— that urgent medical attention was needed at the aircraft to attend to a girl who had been injured after suffering a fall.

After being notified of the event, Medical Services personnel proceeded to the scene to assess the extent of the girl's injuries and determined that they were not serious or life threatening, but that additional diagnostic tests had to be carried out at a clinic.

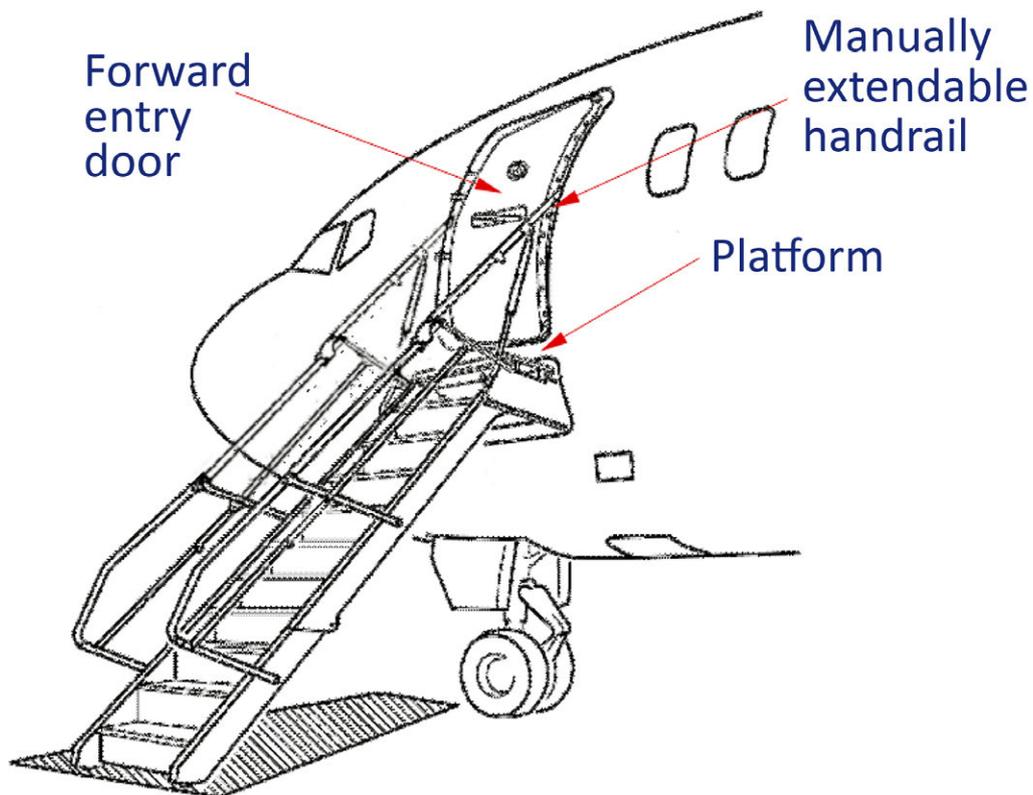


Figure 1. Forward stairs on B-737

Her parents opted not to take her to a hospital, stating that if she was not in danger, they would rather not lose their flight.

It was recommended in any case that upon arriving at their destination, that they take the girl to the emergency room to be X-rayed.

#### 1.4. Background

As a result of several similar accidents involving small children, the FAA published a Special Airworthiness Information Bulletin (SAIB) in September 2007 that was distributed to all Boeing 737 operators and recommended that owners and operators incorporate Boeing Service Bulletin (SB) 737-52-1157 and Monogram Systems Service Bulletin (from the stair manufacturer) SB 870700-52-2130.

These bulletins required the installation of warning placards on the risers of the steps and on the door jams such that these placards be visible with the door open. The placards state that small children must be assisted by an adult during the boarding or disembarking process. The bulletin also required the addition of anti-skid material on the top platform and on the side beams of the stairs.

The SAIB also highlighted the fact that Boeing had revised its Flight Attendant Manual on 29 October 2008 for 737-series airplanes to warn operators of the need to pay special attention to passengers boarding with small children or who have special needs.

Likewise, in the wake of a similar accident at the London Airport on 17 July 2009, the Air Accidents Investigation Branch (AAIB) conducted an investigation into an accident, the report for which was published in August 2011. This report contained three safety recommendations:

- That Boeing establish a process to inform the operators of all Boeing commercial aircrafts of changes to the relevant Flight Attendants Manual.
- That Ryanair review their current passenger boarding and disembarking procedures so that assistance is made available to passengers accompanied by children, and those with special needs.
- That Boeing review the design of the Boeing 737 forward airstairs with the intention of adding a removable barrier to minimize the possibility of a child falling through the gap between the extendable handrail and its upper platform.

## **2. ANALYSIS AND CONCLUSIONS**

Based on several eyewitness accounts, the girl was in her father's arms during the boarding procedure. The father also had in his hands passports, boarding cards and carry-on luggage.

The Boeing 737 is one of the airplanes that uses integrated airstairs to facilitate boarding and disembarking without the need for ground-based stairs or a telescoping jet bridge. When the stairs are deployed, the extendable beams on either side are intended to prevent falls to the side, and the extendable rails against falls from the top platform. Although these extendable handrails do provide protection to adults against falling, the gap between the handrail and the platform poses a danger to small children who are boarding or disembarking from the airplane since it is large enough for a small child to fit through, and therefore to fall.

Several events resulted in the publication of FAA SAIB NM-07-47 in September 2007, recommending that owners and operators incorporate Boeing Service Bulletin (SB) 737-52-1157 and Monogram Systems Service Bulletin (the airstairs manufacturer) SB 870700-52-2130, in addition to the modification to the Boeing 737 Flight Attendant Manual.

This manual was provided to operators upon delivery of the airplane and sets out guidelines for developing the Procedures and Safety Equipment /Flight Attendant Manual in order to comply with legal requirements. If the manual is modified, there is no revision service to ensure that current operators are sent the updated information.

As for the bulletins, though they increase the level of slip protection for the top platform and add visual indications of a potential injury risk, they do not provide physical protection to prevent children from falling through the gap.

The safety recommendations issued by the AAIB in August 2011 addressed these issues by insisting on the need to establish controls to ensure that any modification to the Flight Attendant Manual is reported to operators, to review the boarding and disembarking procedures such that assistance is provided to passengers traveling with small children or who need special attention, and to review the design of the stairs such that a barrier be added to prevent or decrease the possibility of falling between the handrail and the platform on the stairs.

The CIAIAC regards the recommendations issued by the AAIB as necessary and sufficient, and therefore reiterates said recommendations, not believing it necessary to issue any additional recommendations in order to avoid duplicities.