
Collision with air bridge, Boeing 737-500, Dublin, Ireland, May 12, 1999

Micro-summary: Boeing 737 scraped the underside of an airbridge.

Event Date: 1999-05-12 at 0520 UTC

Investigative Body: Air Accident Investigation Unit (AAIU), Ireland

Investigative Body's Web Site: <http://www.aaiu.ie/>

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Aircraft Type and Registration:	B737-500 EI-CDH
No. and Type of Engines:	CFM 56 – 3B1
Aircraft Serial Number:	25739
Year of Manufacture:	1992
Date and Time (UTC):	12 May 1999, 05.20 hrs.
Location:	Stand 38, Dublin Airport
Type of Flight:	Public Transport
Persons on Board:	Pax 25 Crew 5
Injuries:	Pax Nil Crew Nil
Nature of Damage:	Damage to upper surface area port wing tip for a distance of approx. 3 ft in from the wing tip. Extensive damage to the underside of airbridge mechanism.
Commanders Licence:	ATPL
Commanders Age:	54 years
Commanders Flying Experience:	12000 hours, 4500 hours on type.
Information Source:	Duty Officer, Aer Rianta Dublin Airport. AAIU Field Investigation.

SYNOPSIS

Aircraft EI-CDH was on a scheduled flight from Shannon to Dublin and landed earlier than expected at 05.08. The aircraft taxied to the South Apron and was marshalled on to Stand 38. As the aircraft was being marshalled to the stop line at the hammerhead, the top surface area of the port wing outboard of the aileron came in contact with the underneath mechanism of the airbridge, which was extended at the time.

1. FACTUAL INFORMATION

1.1 History of the Incident

EI-CDH was due in at 05.20 hrs but landed at 05.08 hrs. The aircraft quickly arrived at the apron and entered along the yellow taxi line leading to Stand 38. The marshaller and his crew were in place about 1 minute when the aircraft approached the Stand. The Captain reported that the time was now 05.13 hrs.

Just as the aircraft was being brought to a halt at the hammerhead, the upper surface area of the port wing, outboard of the aileron, collided with the underneath electrical mechanism of the airbridge. There were no injuries to passengers or crew and the aircraft's airstairs was used to allow the passengers to disembark. The Investigator-in-Charge noted on his arrival that the airbridge was 12.3 metres from its normal parked position.(see Photo 2)

Eyewitness Recollections

The following personnel who had been on or in the vicinity of the stand at the time in question were interviewed on the day of the incident.

(a) Aircraft Marshaller

The marshaller was interviewed and said that he did not notice the airbridge out of its normal parked position. He was concentrating on having the aircraft nose wheel remain on the yellow line. He said the aircraft arrived at the stand quickly and that he had no time to notice the out of position airbridge. It is normal also to have time to check out the stand area before arrival of the aircraft.

He said that because of building renovations, airbridges at Stands 37, 38 and 39 had been out of action for three months. The airbridge at Stand 38 had been brought back into action again recently but he was aware that electricians from the Airport Authority had been working on the airbridge the previous day.

(b) Airbridge Personnel

Two members of the Operators ground operations personnel were on the airbridge for the arrival of EI-CDH.

One of these was a trainee who had recently joined the company and had received a general two weeks training course. The purpose and operation of the airbridge would have been only part of the course syllabus. The reception of EI-CDH was her first assignment following training. She arrived at the airbridge first and awaited the arrival of the qualified member who had gone to check the computer information.

When the experienced member arrived he proceeded to press the operating button to extend the airbridge forward. The appropriate indicating light did not come on. After about 10 seconds he realised that the airbridge was not in its usual parked position.

He pressed the retract position, received an indicating light, and was just about to retract the airbridge when the port wing of the aircraft passed underneath striking the airbridge electrical mechanism.

(c) Airport Operator Duty Electrician

The airport authority duty electrician said that at approx. 20.10 hours on the evening prior to the incident he received a call from the maintenance carpenter requesting that he extend the airbridge in order that they could carry out some renovation on the airbridge. This he did by using the electric motor to extend the bridge and then cranking it manually to its extreme limits. He notified Airport Operations by phone that he had carried out this work and that if the stand was to be used in the meantime that a wingman would be required during marshalling. The electrician then went off duty at 22.00 hours. The above account was also verified by his assistant.

(d) The Pilot

The Pilot reported that whilst being marshalled on the centreline of Stand 38 at a speed of approximately one knot, the left wing contacted the airbridge.

Injuries to persons

There were no injuries reported by any person.

Damage to aircraft

The port wing of the aircraft slipped under the airbridge platform (see Photo1). The top surface of the wing outboard of the ailerons was scored and damaged by the underhanging electrical mechanism of the airbridge. Considerable crushing of the top wing tip sheet metal was evident which would require repair/replacement. The nose wheel was offset about 15cm from the yellow taxiline centre as a result of the impact.

Other damage

Damage was caused to the airbridge mechanism underneath its platform.

Personnel information

The marshaller who had been an Aer Lingus employee for some twenty years had, during that time, been employed as a kitchen porter, transport driver and aircraft loader. He had been promoted to Lead Loader and then to Shift Leader.

Previously the Operator employed personnel from its maintenance organisation to marshal its aircraft at Dublin Airport. However, as this maintenance organisation had been disposed of, a decision was made not to employ its staff to marshal the aircraft. Some of the Operators loading staff received a two-day training session and commenced marshalling duties.

EI-CDH was the first aircraft that the marshaller was detailed to conduct. He had a staff of three who at the time of the incident were in their vehicles awaiting the arrival of EI-CDH.

Aerodrome Information

Stand 38 is situated on the South Apron at Pier B. The airbridge is the only one remaining of an older type and is about five years old. The airbridge has a marked "Park" position on the stand where the airbridge should be located when not in use.

On inspection the investigators found the airbridge bogey extended 12.3 metres from the "Park" position.

2. ANALYSIS

Several separate factors combined to cause this incident:-

Along with the airbridge at this stand the airbridges at Stand 37 and 39 had been out of use for three months. Because the airbridge had been in the parked position for that time it would have been excluded from the attentions of the marshalls.

This was the first day of duty for the newly trained marshaller. It was to be expected that he would be more than a little anxious to carry out his duties in the correct manner. However, the conditions under which he found himself may not have been the conditions under which he was trained during the two day course. The procedural "knowledge" gained in an instructional setting may not be fully recalled in an operational setting, particularly if learned over a short period of two days (state-dependent memory). The aircraft appeared to the marshaller to be taxiing quickly and he said that the aircraft arrived early at the entrance to the stand. This gave the marshaller less time to check out his surroundings on this, his first assignment. If he had had an experienced marshaller on site, this incident might not have occurred.

The airbridge operator had gone to check the computer and as the aircraft arrived early, had only seconds at Gate B22 to realise that the airbridge was fully extended. His assistant, although at the airbridge before him was new to the operation and could not have been expected to raise the alarm before his arrival on scene.

The duty electrician clearly informed the Airport Operators headquarters that the airbridge remained fully extended and that a wingman would be required. The information, that the airbridge was effectively "out of order" and a hazard to aircraft, does not seem to have been transmitted to the Aircraft Operator's ground staff in position to receive the aircraft.

There must have been adequate time from 2200 hours in the evening to 05.00 hours the following morning to place some notice at the airbridge or cones at its base.

3. CONCLUSIONS

- 3.1 The marshaller was not aware that the airbridge was out of its parked position. He had inadequate experience at the time.
- 3.2 Because the aircraft arrived at the stand early, the qualified airbridge operator had little time to check the actual position of the airbridge in relation to its distance from the parked position.
- 3.3 No information was given to the Aircraft Operators Staff by the Airport Authority that the Airbridge was “out of order”. Stand 38 should not have been used at this time.

4. SAFETY RECOMMENDATIONS

- 4.1 The Airport Authority should give adequate and timely warning to Aircraft Operators when stand equipment is out of order due to maintenance. **(SR 3 of 2001)**
- 4.2 The Aircraft Operator should ensure that a qualified and experienced marshaller accompany newly trained marshalls during their first few duty assignments. **(SR 4 of 2001)**
- 4.3 On arrival at a stand airbridge operators should confirm that the airbridge is in the correct parked position. **(SR 5 of 2001)**

Note:

The Airport Authority have put in place a control mechanism to ensure that where facilities are withdrawn, all aircraft handlers are informed of the operational status of stand equipment.



Photo.1 The port wing of EI-CDH following the aircraft's impact with the airbridge on Stand 38.



Photo.2 Position of airbridge relative to the PARK area.