

# Boeing 737-330, D-ABEN, 27 July 2002

<b>AAIB Bulletin No:</b> 2/2003	<b>Ref:</b> EW/G2002/07/31	<b>Category:</b> 1.1
<b>Aircraft Type and Registration:</b>	Boeing 737-330, D-ABEN	
<b>No &amp; Type of Engines:</b>	2 CFM56-3B1 turbofan engines	
<b>Year of Manufacture:</b>	1992	
<b>Date &amp; Time (UTC):</b>	27 July 2002 at 2143 hrs	
<b>Location:</b>	Manchester International Airport	
<b>Type of Flight:</b>	Public Transport (Passenger)	
<b>Persons on Board:</b>	Crew - 6	Passengers - 116
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Puncture in No 1 leading edge slat and severe scratching to underside of left wing	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	48 years	
<b>Commander's Flying Experience:</b>	10,611 hours (of which 4,149 were on type)	
	Last 90 days - 186 hours	
	Last 28 days - 61 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the operator and further enquiries	

Following a flight from Frankfurt to Manchester International Airport, the aircraft was taxiing to park on Stand 22 of pier C (Figure 1 (*jpg 64kb*)). As the aircraft was passing abeam Stand 32, located at the end of Pier C, the crew were advised by Air Traffic Control (ATC) that they would now be parking on Stand 28. This was the next stand on their right along the taxiway. Both crew members believed that they checked the area was free from obstacles before entering the stand. The commander taxied onto the stand by following the yellow taxi guidance line, then used the Azimuth Guidance Nose In Stands (AGNIS) to align the aircraft with the stand centreline, and the Mirror guidance system to stop the aircraft in the correct position. After the aircraft had parked, a member of the ground crew advised the flight crew that the aircraft had struck the upper structure of a Highloader vehicle with the left wing.

There was a Boeing 747 aircraft parked on Stand 32 and an Airbus A330 was due to arrive on Stand 26, both being adjacent to Stand 28. The Highloader vehicle had been parked in the area of Stand 28 as its driver believed that the stand was not about to be used. The driver was awaiting the arrival of the A330, so that he could put the chocks in place, before returning to this vehicle to unload the aircraft holds. When he saw the Boeing 737 turning onto the stand, he attempted to warn the flight crew by running across to the front of Stand 28 and making hand signals to the aircraft.

Stand 28 has an aircraft size capacity up to and including Airbus A320. The stand area is lit at night in accordance with the requirements laid down in Civil Aviation Publication (CAP) 168. The flight crew commented afterwards that there was a lot of equipment around the stand in areas of darkness outside the illuminated area. There is insufficient room between Stands 26 and 28 to park spare equipment, so there are not any ground markings to indicate obstacle clearance zones. There is however an equipment parking area at the head of Stand 26, which includes space for Highloader vehicles. Because of the absence of inter-stand parking, the common practice has arisen of using the adjacent stand area if it is vacant. The Airport Authority stated that they did not approve of, or accept the practice of, equipment being left on stand unattended. On this occasion, Stand 28 was not originally intended to have been used for D-ABEN, and the ground crew were not aware of the late stand change.

The flight crew thought the newly allocated Stand 28 was clear before the aircraft turned on to it. Once the aircraft had turned onto the stand, it is likely that the commander concentrated on lining up with the stand AGNIS and Mirror parking systems, which require the focus of attention to be in two different places simultaneously. While lining up and stopping the aircraft in the correct place, it is unlikely that in the dark he, or the first officer, would have noticed signals from ground personnel moving in from his left hand side.

The Highloader vehicle had been parked with its head and side lights on, in a position parallel to the centreline of Stand 28 at a distance of 9.6 metres. The semi-span of the Boeing 737-300 series is 14.44 metres. On subsequent inspection of the vehicle it was noted that the nearside (side of vehicle closest to the aircraft) headlamp was not working, but a smaller side light was working. This is contrary to the requirements for operation of airside vehicles as laid down in CAP 642 which requires vehicles to meet Department for Transport test standards. The vehicle was equipped with a serviceable orange flashing light, but it was not clear whether this was illuminated at the time of the accident.

Stand allocation at Manchester International is controlled by the airport operator through an airside co-ordinator. The airside co-ordinator is responsible for notifying ATC of the allocation and also for energising the Stand Entry Guidance (SEG) system. The airside co-ordinator is located in a control room, from which he is able to oversee areas of the airport. There are remote Closed Circuit Television cameras located on parking stands which he is able to access. Stand 28 was not equipped with an on-stand emergency over-ride button for the SEG system.

The advice and guidance given in Civil Aviation Publication 642, entitled *Airside Safety Management*, for operation of SEG systems, is for the handling staff **at the stand** to ensure that the stand is clear before activating the SEG. It also contains the following information:

*"Switching on the SEG signifies to the aircraft commander that these actions have been completed and it is safe to enter the stand."*

As a result of this incident, the airport authority indicated that it would publish a Safety Instruction to the effect that unattended equipment must not be parked on aircraft stands. Furthermore, it will require that all ramp personnel be reminded that they should assume that an aircraft may enter an unoccupied stand at any time. The current policy of using remote selection of the SEG is also being reviewed.