

No: 8/91

Ref: EW/G90/12/10

Category: 1a

**Aircraft Type and Registration:** Boeing 707, JY-AJK

**No & Type of Engines:** 4 Pratt & Whitney JT3D turbofan engines

**Year of Manufacture:** Unknown

**Date & Time (UTC):** 12 December 1990 at 1507 hrs

**Location:** Cargo stand 310, London Heathrow Airport

**Type of Flight:** Public Transport (cargo)

**Persons on Board:** Crew - 6                      Passengers - None

**Injuries:** Crew - None                      Passengers - N/A

**Nature of Damage:** Structural damage to fuselage port side  
between stations 360 and 440

**Commander's Licence:** Believed to be a Jordanian  
Airline Transport Pilot's Licence (A)

**Commander's Age:** 38 years

**Commander's Flying Experience:** 6,500 hours (of which 3,000 were on type)

**Information Source:** Metropolitan Police Inquiry

At 1115 hours Royal Jordanian Airways flight RJA 051 parked on stand 310 to unload and then reload with cargo ready for a 1330 departure to Brussels. This stand has a fixed cargo handling system and is designed for the use of B707 and DC8 aircraft. The aircraft was positioned on the stand by the commander using the AGNIS/Stop Bar system. (The acronym AGNIS is derived from Azimuth Guidance for Nose In Stands. It is a red/green light system which provides guidance along the stand centreline to the aircraft commander and is intended as a "back-up" to the stand painted centreline marking. The stop bar is a metal bar across the centreline at windscreen level). On the stand, ground vehicle manoeuvring space around the nose of the aircraft was very much restricted by the cargo platform to its left, the cargo building in front of it, and walkway supporting structure to its right. The lack of space makes accurate taxiing and parking very desirable but the painted centreline markings cannot be seen from the flightdeck during the final part of the approach to the stand. (see photograph).

The cargo was unloaded using the fixed high lift pallet loader situated on the port side of the aircraft. Although fixed, the equipment has a loading platform which can be extended or raised to align precisely with the aircraft's cargo door. The loading and handling crew was provided by Air Canada

under contract to Royal Jordanian Airways. Apparently the contracted manpower for a push back was four: one tug driver; one headset man and two wing watchers.

An unexpected problem during loading delayed the aircraft and it missed its 1330 departure slot. A new departure time of 1530 was allocated and the aircraft was loaded in time for this slot. However, the loading crew reached the end of their shift shortly before the revised departure time and they left the apron leaving only the tug driver with the aircraft. With the flight deck crew on board, the loading platform was retracted and lowered by the tug driver. He also positioned the tug ready for push back and noted that the nosewheels were slightly to his right of the centreline and at an angle to it. This made it unusually difficult for him to connect the towbar since his manoeuvring space was confined by the installations. (Damage to the brickwork of the cargo building at tug level suggests that the available space is inadequate although the damage was not inflicted during this accident). The tug driver then left the apron to telephone for assistance from the next shift since he knew there should have been three other men to assist him with the push back. Whilst he was absent, the operating company's cargo manager arrived at the stand and extended the platform to within 18 inches of the fuselage in order to board the aircraft and check its documentation. On leaving the aircraft, the cargo manager did not retract or lower the cargo platform; he saw a man connect the air starter trolley and then sit on the tug and assumed that this man would retract the loading platform.

At this stage the commander was anxious to make his departure time and he asked ATC for start and push-back clearance even though the next shift of ground handlers had not arrived. The operating company's ground engineer assisted with engine start on the stand and with removal of the starter and ground power units. He also communicated with the commander by headset and interphone during the start and subsequent push back. Neither he nor the tug driver carried out a pre-push back apron inspection.

The push back commenced without the full crew and without any attempt to control vehicle traffic on service roads immediately behind and to the side of the aircraft. After about 5 feet of rearward travel the commander perceived that all was not well and instructed the ground engineer to stop the pushback. After so doing he went to inspect the fuselage and saw that the aircraft had struck the cargo handling platform, part of which was protruding. The police were summoned and photographs were taken before the aircraft was removed for repairs. The photographs showed both nosewheels to the right of the centreline. The aircraft was out of service for 19 days.



**Cargo Stand 310**  
**LONDON HEATHROW AIRPORT**