

AAIB Bulletin No: 3/94

Ref: EW/C94/1/5

Category: 1.1

Aircraft Type and Registration: Challenger, N585UC

No & Type of Engines: 2 General Electric CF 34-3A turbofan engines

Year of Manufacture: N/K

Date & Time (UTC): 21 January 1994 at 1010 hrs

Location: Block 94B, London Heathrow Airport

Type of Flight: Public Transport

Persons on Board: Crew - 3 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Damage to fuselage

Commander's Licence: N/A

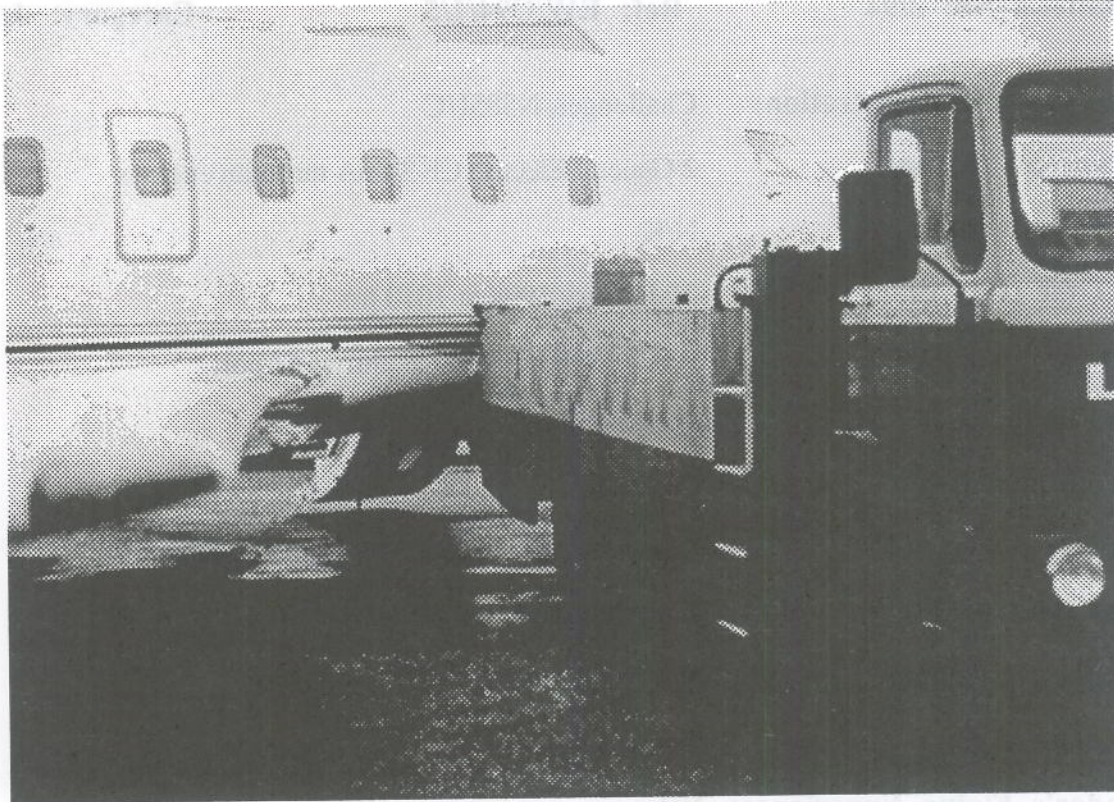
Commander's Age: N/A

Commander's Flying Experience: N/A

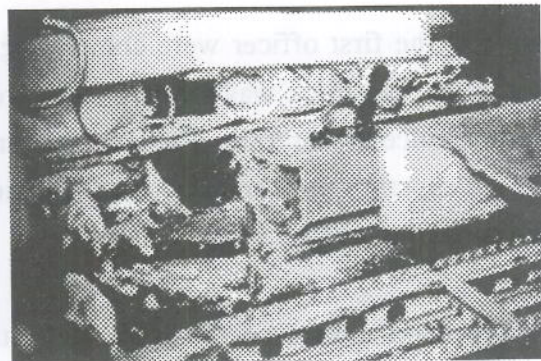
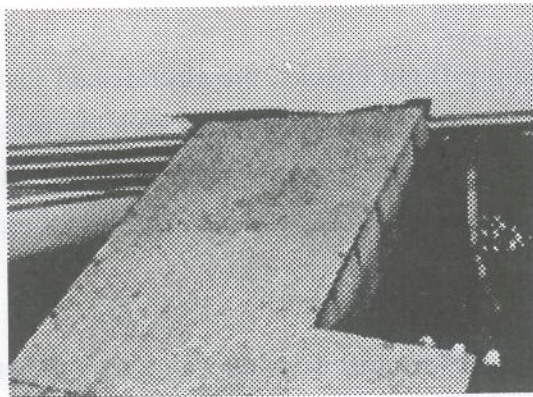
Information Source: AAIB Field Investigation

The captain and the first officer were completing the pre-flight checks, the aircraft had just been re-fuelled and the fuel truck was moving away from the aircraft as a lavatory servicing truck was positioning to service the aircraft. The lavatory servicing truck struck the aircraft, throwing the first officer into the captain's seat, and the captain against the cockpit wall. All crew members reported feeling the aircraft move several feet.

The rear right-hand corner of the truck had struck the aircraft fuselage and had penetrated approximately one foot into the cabin. Tyre marks around the nose gear showed that the aircraft had moved about 6 feet during the impact.



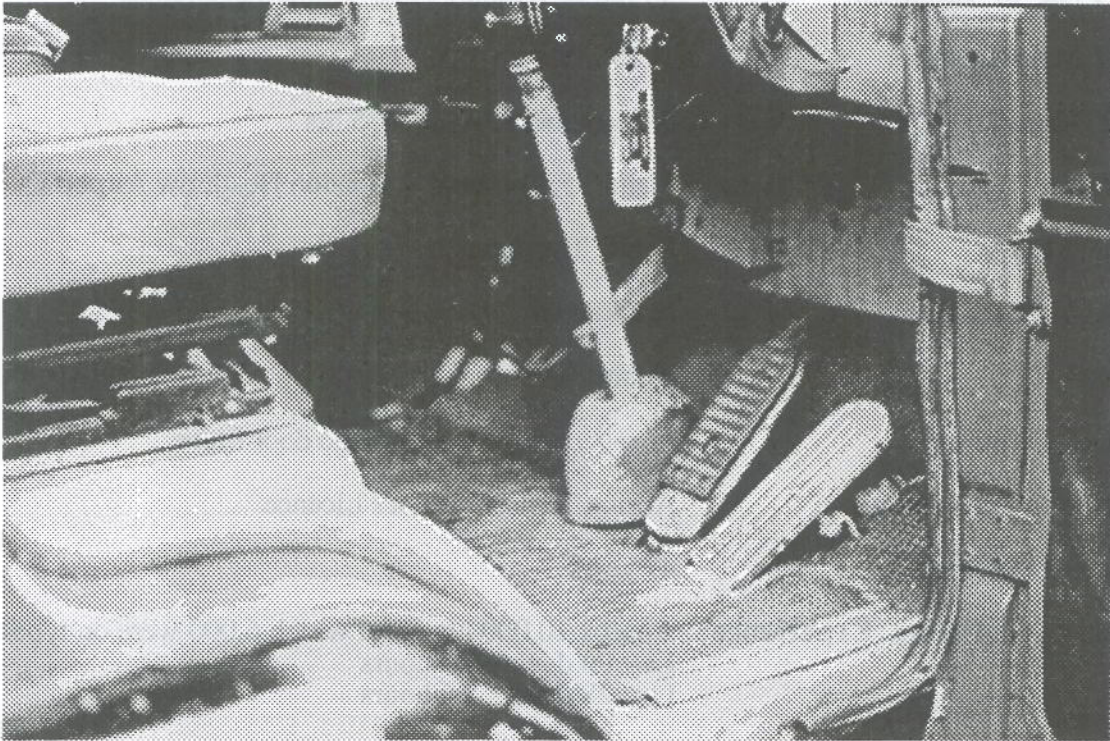
Relative configuration of the wing leading edge and the vehicle



Views showing external and internal penetration

The vehicle's suction hose is about 6 inches in diameter and is stiffened to resist the reduced pressure whilst suction is applied. It is attached to the left-hand side of the truck, about 2 feet from the rear; the length of hose extending beyond the back of the vehicle is just over 6 feet. The configuration of the truck, the position of the Challenger toilet servicing point under the fuselage, and its location relative to the swept wing makes access to this aircraft type particularly difficult for the vehicle used.

The driver's assistant guided the vehicle back to a halt adjacent to the aircraft, and then found that the hose was about an inch too short to connect with the aircraft. He restowed the hose on the vehicle and asked the driver to back up just a bit more; the vehicle then shot back, hitting the aircraft and trapping the assistant against the side. The driver attempted to drive forwards, but the vehicle did not disengage from the aircraft. When questioned later the driver stated that his foot had slipped off the brake.



The driver had received adequate training for his job, and the vehicle was serviceable for the task, however, the brake and accelerator pedals were close together, and the use of industrial safety boots reduced the amount of 'feel' available to the driver.

There were 101 aircraft damaged in ramp accidents at Heathrow during 1993. The cost of this accident was estimated at approximately \$600,000 for the repair and \$400,000 for the consequential losses. The Civil Aviation Authority has established a Working Group to consider apron safety with a view to recommending a set of requirements/criteria for the operation of airport apron areas.