

No: 10/83

Ref: EW/G83/05/14

Aircraft type and registration:	Boeing 707 - 338C (Multi-jet public transport aircraft) G-BFLD
Year of manufacturing:	1968
Date and time (GMT)	31 May 1983 at 0943 hrs
Location:	Departing London Gatwick
Type of flight:	Non-scheduled passenger
Persons on board:	Crew - 9 Passengers - 211 + 1 infant
Injuries:	Crew - Nil Passengers - Nil
Nature of damage:	Leading edge flap attachments failed, fuel tank holed and hydraulic pipes ruptured
Commander's Licence:	Airline Transport Pilots Licence
Commander's Age:	44 years
Commander's total flying experience:	7135 hours (of which 3306 were on type)

Soon after retraction at an attitude of 3500 ft following a normal take off the utility hydraulic contents indication dropped to zero and the numbers 2 and 3 EDP low pressure warning lights came on. The emergency check list was accomplished and it was concluded that a failure in the utility hydraulic system had resulted in the loss of all utility fluid but that no other systems had been effected.

A few moments later the indicated quantity in No 2 main fuel tank fell suddenly by about 3000 lbs. The No 2 tank was isolated and no further decrease in contents occurred, so No 2 engine was then fed directly from this tank and it was noted that integrator readings and the drop in fuel contents that ensued tallied. It was concluded that the sudden drop in contents previously noted was either due to a gauge error or a leak which had now ceased.

The flight was continued to Vancouver where the undercarriage was lowered manually and the aircraft landed without further incident.

Examination of the aircraft revealed a primary failure of the No 1 leading edge flap actuator support fitting. This had resulted in secondary local damage including the rupture of hydraulic pipes and a 3" x 5" hole in the No 2 fuel tank.

The cause of the primary failure has been identified as stress corrosion. A similar previous failure and preventative measures are described in Boeing Service Bulletin SB 3411 dated 2 July 1982.

The Civil Aviation Authority have been notified of the operational and engineering aspects of this accident.