

Aircraft type and registration;	Short SD 330, G-BITV (Twin turbo-prop public transport aircraft)	
Year of manufacture:	N/A	
Date and time (GMT):	6 July 1983 at 1455 hrs	
Location:	Manchester International Airport	
Type of flight:	Public transport	
Persons on board:	Crew – Nil	Passengers – NIL
Injuries:	Crew – N/A	Passengers – N/A
Nature of damage:	Nil – refuelling incident	
Commander's Licence:	N/A	
Commander's Age:	N/A	
Commander's total flying experience:	N/A	

This incident occurred when the aircraft received an estimated 700 litres of Jet A1 fuel, with the meter on the refuelling vehicle showing a delivery of 110 litres. The crew were able to establish that they had the correct quantity of fuel for the flight, and there was thus no hazard to the aircraft, but it was not at first possible to find any defect on the vehicle, or any error in the control settings, which could explain the discrepancy.

It has been known for some time that on certain refuelling vehicles it is possible to mishandle the controls so that refuelling and defuelling valves are simultaneously open. In such a case during refuelling some of the fuel pumped out under pressure may return to the suction side of the pump via the defuelling circuit, to be recirculated through the system; more fuel will thus pass through the meter than is actually reaching the aircraft. On this occasion, however, the vehicle, a Somerset MkI, had a linkage between the refuelling and defuelling levers which should have made it impossible to achieve simultaneous opening of the respective valves. The main components in this linkage were a stop attached to the base of the defuelling lever which bore against a cam on the base of the refuelling lever in such a way that whenever the refuelling valve was open the defuelling valve should have been firmly closed. A close examination of the vehicle revealed wear on the stop which made it possible for the defuelling lever and valve to be fractionally open when refuelling was in progress. This displacement of the lever would not be obvious to the operator of the vehicle.

A modification was immediately incorporated into the system to ensure that the stop bore firmly against the cam. The fuel company is continuing to monitor the use of the vehicle, which it only employs when more modern refuellers are temporarily withdrawn from service. The company is shortly to dispose of the vehicle, which is one of the last of its type in their service, but it is considered likely that at some smaller airports refuellers with similar characteristics may continue in use for some years.