Aviation Safety Investigation Report 198402856

**Douglas DC-9-31** 

25 September 1984

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at <u>www.atsb.gov.au</u>.

Occurrence Number Location:	er: 198402856 90 km W o	198402856 90 km W of Melbourne VIC			Occurrence Type: Incident	
Date:	25 Septem	25 September 1984 Nil			<b>Time:</b> 947	
Highest Injury Lev	el: Nil					
Injuries:						
-		Fatal	Serious	Minor	None	
	Crew	0	0	0	0	
	Ground	0	0	0	-	
	Passenger	0	0	0	0	
	Total	0	0	0	0	
Aircraft Details: Dou	glas DC-9-31					
Registration: VH	VH-TJJ					
Serial Number:						
<b>Operation Type:</b> Dor	Domestic Passenger Flight					
Damage Level: Min	lor	U				
Departure Point: Mel	Melbourne VIC					
<b>Departure Time:</b> 094	7					
Ade	laide SA · diver	sion to				
Destination:	and on arver	bron to				

Approved for Release: 17th January, 1985

## **Circumstances:**

During take-off, with the first officer at the controls, the captain noticed that the aircraft cabin was being affected by pressure surges. He selected the airconditioning automatic shutdown switch to "override" and also selected manual operation of the outflow valves, to control the cabin altitude. The cabin altitude was controlled successfully at 7000 feet until, with the aircraft at 20,000 feet on climb, the cabin altitude began to climb without pilot control input. An emergency descent was carried out, at an average of 4200 feet per minute, and the aircraft levelled at 7000 feet. During the descent the cabin altitude reached a maximum height of 12,000 feet and when the aircraft had levelled at 7000 feet, the cabin altitude was some 2000 feet below sea level. This change of cabin altitude is estimated to have occurred over a period of three minutes. The cabin altitude was raised to 2000 feet above sea level and the aircraft was depressurized for landing. The failure at take-off was caused by a faulty pressure switch in a system intended to shutdown the airconditioning systems in the event of an engine failure on take-off. Later in the climb a clamp failure in the airconditioning cooling air duct led to the shut-down of at least one airconditioning pack. During a period of high cockpit workload the pressure and temperature gauges associated with the airconditioning systems were not closely monitored. The selection of manual cabin altitude control aggravated the fluctuations in cabin altitude experienced during the flight.