

**Aviation Safety Investigation Report**  
**199001163**

**Boeing 727-277**

**31 October 1990**

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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 [www.atsb.gov.au](http://www.atsb.gov.au).**

**Occurrence Number:** 199001163  
**Location:** 111 km NE of Melbourne VIC  
**Date:** 31 October 1990  
**Highest Injury Level:** Serious  
**Injuries:**

**Occurrence Type:** Accident  
**Time:** 1733

	Fatal	Serious	Minor	None
Crew	0	1	7	7
Ground	0	0	0	-
Passenger	0	0	0	139
<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>146</b>

**Aircraft Details:** Boeing 727-277  
**Registration:** VH-ANA  
**Serial Number:** 22641  
**Operation Type:** Regular Public Transport  
**Damage Level:** Nil  
**Departure Point:** Canberra ACT  
**Departure Time:** 1700  
**Destination:** Melbourne VIC

**Approved for Release:** 4th April 1991

#### **Circumstances:**

During descent into Melbourne a large storm cell was detected 148 kilometres ahead on the aircraft's radar. The Captain turned on the seat belt sign and instructed the Flight Attendants to stow cabin equipment and to be seated. The aircraft was diverted right of track and passed abeam the storm cell by 37 kilometres. With no other weather returns indicating on the radar, a short duration of severe turbulence was suddenly experienced. At the time all passengers were secure in their seat belts, cabin equipment had been stowed, some of the Flight Attendants were seated with seat belts fastened and the remainder intended to secure themselves after performing appropriate cabin duties. During the turbulence encounter two Flight Attendants, who were not as yet seated, were injured. Almost immediately after the turbulence ceased, the oil filter bypass light for the number three engine illuminated. The oil filter bypass drill was carried out and number three engine was shut down. Examination of the Flight Data Recorder showed that the aircraft was flying in smooth conditions for three minutes preceding the onset of severe turbulence which lasted for 11 seconds. Vertical "G" varied from +1.57 to -0.27. Recorded Pitch Attitude values ranged between plus and minus 4 degrees while Roll Attitude values varied up to 10 degrees. Airspeed changed from 304 knots to 284 knots in one second. At the end of the turbulence encounter, smooth conditions were experienced for the rest of the flight. With the weather radar clear and inflight conditions smooth, the crew had no way of predicting the onset of severe turbulence. The illumination of the oil filter bypass light was caused by a loose piece of solder within the oil pressure switch.

#### **Significant Factors:**

The following factors were considered relevant to the development of the accident

1. The aircraft encountered unforeseen turbulence in flight.

2. A loose piece of solder within a pressure switch gave the pilots a false indication of engine oil filter by-pass. This accident was not the subject of an on-scene investigation.