

**Aviation Safety Investigation Report
198904244**

Fokker F28-4000

21 October 1989

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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.

Occurrence Number: 198904244
Location: Maroochydore QLD
Date: 21 October 1989
Highest Injury Level: Nil
Injuries:

Occurrence Type: Incident

Time: 1422

	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: Fokker F28-4000
Registration: VH-EWB
Serial Number: 11205
Operation Type: Regular Public Transport
Damage Level: Nil
Departure Point: Maroochydore QLD
Departure Time: 1422
Destination: Sydney NSW

Approved for Release: 19th December 1989

Circumstances:

At the time of the occurrence, the passenger terminal at Maroochydore was being modernised and expanded. A temporary, one metre high, chain wire fence marked the edge of the apron area in front of the building. The area between the fence and the terminal building was bare sand on which lay various building materials including sheets of roof cladding. Access to this area was restricted by a sign on a fence adjacent to the northern end of the building. However, the new sections of the building were open, displayed no warning signs, and allowed ready access to the apron side of the building. The old section of the building was still functioning as the passenger terminal. Access through this area to the apron was restricted to emplaning and deplaning passengers. Prior to the aircraft's arrival, a group of bystanders, some of whom carried placards, had gathered behind the chain wire fence directly in front of the terminal building. These persons gained access to this area apparently via the northern end of the building. As the aircraft taxied to its parking position in front of the terminal, the bystanders directed abuse at the flight crew. This abuse continued until the aircraft departed. After the aircraft captain remarked to the company airport manager that the bystanders could be in some danger when the aircraft taxied, they were asked by the manager to move. The group moved to the new northern section of the building. Some remained adjacent to the fence on which the warning sign was mounted, others were positioned within the new section of the building behind a low brick wall, while the remainder went to the rear of this section of the building. On taxi from the terminal, the aircraft was required to make a sharp right turn through about 180 degrees. Numerous complaints were received alleging that during the turn, the pilot used excessive thrust, endangering the bystanders. Photographic evidence was obtained showing loose sand and one or two sheets of roof cladding being blown by the jet blast. The Digital Flight Data Recorder (DFDR) was removed from the aircraft and analysed. The only engine parameters recorded by the DFDR system installed in VH-EWB are percentage thrust for each engine. This system provides an indication of developed thrust on each engine and records it as a percentage of maximum thrust by measuring the pressure differential

between the jet pipe total pressure and the ambient pressure from the auxiliary pitot static system. Engine control by the crew is accomplished via throttle control of N2 RPM. The relationship between percentage thrust and N2 RPM is exponential so that small changes in N2 at the higher levels produce large changes in thrust. The DFDR analysis showed that taxi was initiated with a thrust of 54 percent. After the aircraft had turned through about 90 degrees, thrust increased to a maximum of 60 percent on both engines over a period of 4 seconds and then decreased to 54 percent over the following 6 seconds. The left engine was at 60 percent for 2 seconds and the right was at 60 percent for less than 1 second. During this time the aircraft turned through a further 90 degrees and the jet blast from its engines would have been directed towards the terminal building. The aircraft was turning into wind during this latter 90 degrees of turn. Because of an unserviceable accelerometer in the aircraft, no valid longitudinal acceleration data was recorded. Consequently, no information was available concerning brake application. Other periods of taxiing were examined for comparison with the taxi thrusts used on this occasion. These showed that up to 57.5 percent thrust had been used during taxiing manoeuvres at other locations. However, because the DFDR recorded data contained no other flight into Maroochydore, no meaningful comparison could be made. In any case, the use of an extra few percent around the 55-60 percent thrust level would not constitute a substantial increase the strength of the jet blast from the engines. Therefore, the allegation that the pilot used excessive thrust on taxi at Maroochydore is not supported by the factual evidence available. Immediately following the occurrence, the aircraft operator ceased to use the parking position directly in front of the terminal building. Also, arrangements were made by the Civil Aviation Authority with the airport owner for a safety officer to be in attendance at the terminal for all jet operations to control public access in the vicinity of the terminal construction area.

Significant Factors:

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

1. Security with respect to both public access and loose items of building material in the area between the terminal building and the apron was inadequate.
2. Members of the public were situated in the construction site area at the time the aircraft taxied.
3. Jet blast from the aircraft as it taxied from the terminal blew debris towards the bystanders.