Aviation Safety Investigation Report 199600664

Fairchild Industries Inc Metro III

28 February 1996

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Aviation Safety Investigation Report

199600664

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number: 199600664 **Occurrence Type:** Incident
Location: Latrobe Valley, Aerodrome
State: VIC **Inv Category:** 4
Date: Wednesday 28 February 1996
Time: 1325 hours **Time Zone** ESuT
Highest Injury Level: None

Aircraft Manufacturer: Fairchild Industries Inc
Aircraft Model: SA227-AC
Aircraft Registration: VH-NEK **Serial Number:** AC-615B
Type of Operation: Air Transport Domestic Low Capacity Passenger Scheduled
Damage to Aircraft: Minor
Departure Point: West Sale Vic
Departure Time:
Destination: Latrobe Valley Vic

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command		404.0	21000

Approved for Release: Monday, July 15, 1996

History of the flight

Prior to landing West Sale, the crew were advised by air traffic control that the weather conditions at Latrobe Valley, their next landing point after West Sale, were wind 270/5, cloud seven oktas at 800 ft and visibility 5000 m. Considering these conditions, the pilot in command elected to fly from West Sale to Latrobe Valley, a distance of 25 NM, at 4000 ft and make an NDB approach at Latrobe Valley. Weather conditions enroute were considered marginal for a VFR flight below the cloud base. The minimum descent altitude for the NDB approach at Latrobe Valley is 1000 ft so the crew were aware they may not get into Latrobe Valley.

When they taxied for departure at West Sale, the crew were advised by air traffic control that another aircraft had flown to Latrobe Valley visually below 1000 feet above ground level and made a successful approach and landing, about 40 minutes previously. On the basis of this information, the pilot in command decided to follow the same procedure. An alternative course of action, in the event that visual reference was lost, was planned and briefed prior to departure. The aircraft then departed and according to the crew, proceeded visually below the cloud at a reduced airspeed of 170 to 180kt, at 500 to 700 feet above ground level with a flight visibility of about 5000 metres.

Approaching Latrobe Valley all appropriate checks were completed. Calculated landing weight was 6400 kg which equated to a target threshold speed (Vref)ilot in command could not recall any Vref minus calls. The captain did not respond to Vref minus calls by application of power.

Touchdown was heavy and both crew members agreed there had been no landing flare. The co-pilot sensed an increased sink rate shortly before touchdown but did not note the vertical speed indication. The crew found no damage to the aircraft during a post flight inspection. However, the day after the occurrence, minor damage consistent with a heavy landing was discovered. An inspection of the runway threshold, after the occurrence, revealed that the aircraft had touched down just prior to the threshold and had hit and broken two frangible runway end lights.

The investigation

As part of the investigation, the flight data recorder was read out. This revealed that at touchdown, airspeed had reduced to below Vref and sink rate was high (approx:102 kt/1000 ft/min+). Runway 03/21 at Latrobe Valley is 1430 metres long, is narrow (an 18 metre wide sealed section), has no touchdown zone markings or approach guidance lighting (eg TVASIS). Visibility was reported by the crew to be about 5000 metres at the airfield and deteriorating. Light rain was falling. The pilot in command did not turn on the windscreen wipers because on long final approach, speed was in excess of the windscreen wiper limit speed and later on final he was reluctant to divert his attention from flying the approach to the wiper control switch.

The crew did not activate the runway lighting which may have assisted with approach angle guidance. The pilot in command stated that he was aiming to touch down just past the piano keys (the threshold) due to the runway being wet, narrow and having a downslope (0.4% down to the southwest).

The pilot in command acknowledged that he clearly misjudged the approach in that the aircraft touched down before he had initiated a landing flare. It is possible that there may have been a visual illusion created by the combination of a narrow runway, reduced visibility and rain on the windscreen.

Safety action

As a result of its investigation the company has instituted the following measures:

1. The Metro Operations Manuals are being amended to reflect the requirement to call excessive sink rate on final approach.

2. The operator has distributed an aircrew circular describing techniques which assist in overcoming visual illusions associated with approaches to narrow runways, particularly in reduced visibility conditions.

3. Runway lights are to be activated on narrow runways to assist in assessing approach angle.

4. All flight crew members are to complete crew resource management courses.