



AIRCRAFT ACCIDENT REPORT

No. 92-005

Cessna 172

ZK-FGV

Nelson Airport

27 February 1992

**Transport Accident Investigation Commission
Wellington - New Zealand**

TRANSPORT ACCIDENT INVESTIGATION COMMISSION

AIRCRAFT ACCIDENT REPORT No. 92-005

Aircraft Type, Serial Number and Registration: Cessna 172M, 172-65485
ZK-FGV

Number and Type of Engines: One Lycoming O-320-E2D

Year of Manufacture: 1975

Date and Time: 27 February 1992, 1415 hours NZDT

Location: Nelson Airport
Latitude: 41°18'S
Longitude: 173°13'E

Type of Flight: Air Transport – Charter

Persons on Board: Crew: 1 Passengers: 3

Injuries: Crew: 1 Nil Passengers: 3 Nil

Nature of Damage: Substantial

Pilot in Command's Licence: Commercial Pilot Licence
(Aeroplane)

Pilot in Command's Age: 29

Pilot in Command's Total Flying Experience: 4760 hours
200 on type

Information Sources: Transport Accident Investigation
Commission field investigation

Investigator in Charge: Mr A J Buckingham

1. NARRATIVE

1.1 ZK-FGV was on a charter flight from Paraparaumu to Nelson and return, with a 4.5 hour stopover at Nelson.

1.2 The aircraft was parked on the north-eastern end of the apron, adjacent to the Aero Club. As the pilot accompanied his passengers to the aircraft, he noticed a Metroliner parked further out on the apron at a position known locally as "Gate 5", with its engines running at what appeared to be idle power. The Metroliner was facing south-west, approximately parallel to runway 20.

1.3 After starting and obtaining taxi clearance, the pilot of ZK-FGV commenced taxiing for runway 20 via the grass taxiway which led from the north-eastern end of the apron. As he was turning out of his parking position to enter the taxiway, he passed behind the Metroliner, at an estimated distance of 30 metres. He considered this a safe distance, based on the assumption that the Metro would remain at idle power in that position.

1.4 As he taxied, it became apparent that the Metroliner's engine power had been markedly increased. The resulting slipstream buffeted the Cessna and caused it to start weathercocking. The pilot stopped taxiing, faced the aircraft into the slipstream, applied the brakes and waited for the slipstream to abate, while holding the control column forward.

1.5 About 45 seconds later, the Cessna's main wheels left the ground momentarily, and the aircraft settled heavily back onto the ground, striking the propeller and left wingtip.

1.6 The Metroliner was being run in order to record engine performance. Because of the prevailing surface wind, the run was conducted on the apron area rather than in an adjacent dedicated run-up bay. The run-up bay, which is clear of the main apron area, is surrounded on three sides by stacked hay bales for noise attenuation. In strong winds, turbulence induced by these hay "walls" can cause fluctuating readings, making the recording of engine performance difficult. The Company catered for this difficulty by utilising "Gate 5" in such conditions.

1.7 The two engineers who conducted the run had been monitoring both tower and company radio telephone frequencies, but had turned down the volume on the set tuned to the tower frequency, because the radio traffic was distracting.

1.8 Although the apron was outside the Aerodrome Controller's area of responsibility, he did consider transmitting a warning to the pilot of ZK-FGV. However as he recognised the latter as a frequent visitor to Nelson he assumed the pilot was familiar with the local run-up areas, and did not think it necessary to warn the pilot of ZK-FGV of the potential hazard. Had he transmitted a warning to the Metroliner's occupants that another aircraft was about to taxi behind, it was evident that such a warning would not have been received by them.

1.9 The engineer in charge of the run was not able to fully check behind his aircraft before increasing engine power, owing to the restricted view aft from the Metroliner cockpit. He assumed that other traffic would be aware of his intentions, in view of the frequent use made of that area.

1.10 There was no formal advice promulgated to warn visiting pilots that the area may be used for aircraft engine runs.

1.11 Although the 1400 (NZDT) Nelson METAR indicated a surface wind of 260° true at 18 knots, gusts of up to 40 knots were experienced throughout the afternoon.

1.12 As a result of this accident, the Acting Engineering Manager of Air Nelson issued a memorandum to his staff, requiring them to maintain a continuous listening watch on both tower and company frequencies while conducting ground runs. Requirements to call Air Traffic Control before starting, and to call before running at high power, were also specified.

2. FINDINGS

2.1 The pilot in command of the Cessna was appropriately licensed and rated for the proposed flight.

2.2 In taxiing behind the Metroliner, the Cessna pilot assumed that the Metroliner would not be performing high-power engine running in that position.

2.3 The engineers running the Metroliner were not able to fully check the area behind their aircraft, owing to the restricted view to the rear.

2.4 The engineers were not monitoring the Air Traffic Control frequency while conducting the engine run.

2.5 The Cessna was probably lifted by a combination of the Metroliner's slipstream and a strong wind gust.

2.6 No formal advice was available to warn visiting pilots of the use of the apron area for high-power engine runs.

3. SAFETY RECOMMENDATIONS

In view of the occasional use of the north-eastern end of the apron area known as "Gate 5" for engine run-ups, it was recommended to the Manager, Aeronautical Information Services, Airways Corporation of New Zealand Limited, that they:

Append a warning to the Nelson Aerodrome VFG Chart to the effect that "Gate 5" (the north-eastern end of the main apron) may be used from time to time for high-power engine runs by medium weight turboprop aircraft.

12 November 1992

M F DUNPHY
Chief Commissioner