

**Aviation Safety Investigation Report
199502944**

**de Havilland Canada
Twin Otter**

05 September 1995

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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: 199502944 **Occurrence Type:** Accident
Location: 8km SE Sydney, Aerodrome
State: NSW **Inv Category:** 4
Date: Tuesday 05 September 1995
Time: 2048 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: de Havilland Canada
Aircraft Model: DHC-6 SERIES 320
Aircraft Registration: VH-KZQ **Serial Number:** 759
Type of Operation: Air Transport Domestic Low Capacity Passenger Scheduled
Damage to Aircraft: Substantial
Departure Point: Sydney NSW
Departure Time: 2045 EST
Destination: Aeropelican NSW

Crew Details:

<u>Role</u>	<u>Class of Licence</u>	<u>Hours on</u>	
		<u>Type</u>	<u>Hours Total</u>
Pilot-In-Command	ATPL	3000.0	6000
Co-Pilot/1st Officer	Commercial	30.0	1400

Approved for Release: Monday, October 14, 1996

The Twin Otter took off from runway 16L, on climb to 3,000 ft. Both pilots reported that shortly after entering cloud at 2,000 ft there was a bright flash from the nose of the aircraft, temporarily blinding them. All electrical services had failed, but there was an electrical burning smell and smoke in the cockpit, which cleared when the electrical fire drills were completed. The on-board Emergency Locator Transmitter had also self activated. Suspecting a lightning strike, and having lost radio communications, the aircraft was flown back for a landing on runway 25, with the crew broadcasting their intentions blind. The aircraft subsequently landed safely.

The departures controller noticed that the radar return from the Twin Otter had lost its altitude display soon after departure and tried unsuccessfully to contact the pilot. He thought the aircraft had suffered a communications failure and, from its track, assumed it was returning to land on runway 25, and immediately cleared the adjacent airspace. The tower controller also noticed the aircraft was landing on runway 25 without communications, and issued a landing clearance by flashing a green light signal.

A subsequent inspection revealed the aircraft had sustained a lightning strike on the nose. The nose cone bonding strip had been destroyed and the resulting heat damage had ruptured the nose cone structure. The current had taken multiple exit paths throughout the aircraft, rendering most electrical services inoperative, before exiting at various points on the tail surfaces.



