Aviation Safety Investigation Report 199501620

Cessna Aircraft Company Centurion

31 May 1995

Aviation Safety Investigation Report

199501620

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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.

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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: 199501620 **Occurrence Type:** Accident
Location: 5km NE Cairns
State: QLD **Inv Category:** 4
Date: Wednesday 31 May 1995
Time: 1702 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 210N
Aircraft Registration: VH-LMX **Serial Number:** 210-63509
Type of Operation: Charter Passenger
Damage to Aircraft: Substantial
Departure Point: Bloomfield River QLD
Departure Time: 1702 EST
Destination: Cairns QLD

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial	24.0	484

Approved for Release: Wednesday, June 14, 1995

The pilot stated that, when the aircraft was about 900 ft above the ground on approach to the runway, the engine began to lose power. She then commenced engine failure checks. The electric fuel pump was turned on, the throttle, pitch and mixture levers were moved fully forward and the circuit breakers, master switch and magnetoes were checked. As there was no response from the engine the pilot then changed from the right to left fuel tank, then subsequently back to the right. The engine still did not respond and a forced landing was made in a cane field.

All six occupants evacuated the aircraft and were not injured.

The pilot later said that the left fuel gauge read one quarter and the right gauge read three quarters full.

Post flight inspection found the left fuel tank empty but the right tank had sufficient fuel for continued flight. The inspection also determined that both fuel tank gauges were misreading and that no fuel calibration card was available in the aircraft.

The pilot's management of the fuel system was not in accordance with the Aircraft's Pilot's Operating Manual which indicates that the fuel should be managed in such a way as to balance the aircraft laterally or handling/trim penalties would result. However, the pilot operated from the left tank for almost the entire flight. There had been approximately two hours of fuel in each tank at the commencement of the flight with a flight plan indicating a requirement for a little under two hours of fuel.

Correct operating procedures for changing tanks also require the change to be made at the selector before the electric fuel boost pump is switched on, in order to prevent air entering the fuel line to the engine. It is probably a co-incidence that the switching took place as air from the empty left tank entered the line. This would have had the effect of totally confusing the pilot who diagnosed a fault with the half full right tank and switched back to the empty left tank. Once the fuel feed line to the engine contains air, it takes a considerable time for it to be purged by fuel under pressure from the electric boost pump. The pilot did not have this time available when the engine lost power at 900ft altitude.