

Aviation Safety Investigation Report 198900804

Partenavia P68-B

24 March 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: 198900804 **Occurrence Type:** Accident
Location: Maryvale (94 Km SSE Alice Springs) NT
Date: 24 March 1989 **Time:** 1510
Highest Injury Level: Nil
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	1	1
Ground	0	0	0	-
Passenger	0	0	0	4
Total	0	0	0	5

Aircraft Details: Partenavia P68-B
Registration: VH-PNV
Serial Number: 85
Operation Type: Private
Damage Level: Substantial
Departure Point: Broken Hill NSW
Departure Time: 1007
Destination: Alice Springs NT

Approved for Release: June 27th 1989

Circumstances:

The pilot had booked the aircraft for an endorsement two days prior to the proposed flight. However, due to other commitments the aircraft did not become available until 1900 hours. This was unacceptable to the pilot and he was forced to arrange an endorsement with another training organisation on the following day. This arrangement meant that the pilot's preparation for the proposed flight became somewhat rushed. Additionally, the pilot had studied the pilot's notes for the Partenavia, but it was a different model which had a different fuel system to the aircraft which he subsequently flew. The flight proceeded in instrument meteorological conditions for most of the time. The pilot reported that the fuel gauges indicated just over half full as he passed Oodnadatta. However, from that position on, the fuel gauge indications started to decrease fairly rapidly and because of the worsening fuel situation, the pilot decided to inform Alice Springs Flight Service in order to expedite his arrival. The fuel quantity indications then began to drop at an alarming rate and the pilot decided to make a precautionary landing before the fuel supply was exhausted. After descending to lowest safe altitude, the pilot was able to see the ground through a hole in the cloud cover. He descended through the hole and landed on a flat piece of ground. During the landing run the nose gear collapsed just before the aircraft came to a stop. Due to weight consideration the pilot departed with full main fuel tanks only. He was under the mistaken belief that the total endurance with full main fuel tanks was 470 minutes and had this been so there would have been sufficient fuel to meet all requirements for the flight. However, total endurance with full mains (392 litres) is 314 minutes. Some fuel remained in the outboard fuel tanks but the pilot was probably not aware of this. The pilot calculated that a total endurance of 433 minutes was required for the planned flight. This figure is well in excess of the fuel carried on the flight. As the flight progressed strong headwinds were encountered and the pilot had been airborne for approximately 303 minutes when he made the precautionary landing 94 Km south-south-east of his destination. It was calculated that between 12 to 29 litres of usable fuel remained in the aircraft's tanks on landing. The pilot reported that fuel was being consumed at a faster

rate from one fuel tank than the other and that he cross fed to balance the fuel in each main tank. When the aircraft's tanks were dipped after the accident they were found to contain approximately 80 litres of usable fuel, 70 litres in the right main and 11 litres in the right outboard fuel tank. It was later ascertained that the right fuel quantity indicator under read at lower readings and this misled the pilot into thinking that fuel was being used at a faster rate from the right hand fuel tank. It also misled the pilot into thinking that he was almost out of fuel where in fact he had sufficient fuel to fly to his destination, although not with the required fuel reserves. This accident was not the subject of an on-scene investigation.

Significant Factors:

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

1. The pilot's knowledge of the aircraft fuel system was inadequate in that he did not know the capacity of the fuel tanks.
2. Insufficient fuel was carried for the planned flight.
3. The right hand fuel quantity indicator was inaccurate at low readings. This caused the pilot to form a false hypothesis that the aircraft's fuel supply was almost exhausted.
4. Because the aircraft was not available when the pilot booked his endorsement, the time available for training and planning of the flight was reduced.