

**Aviation Safety Investigation Report
198304358**

Cessna 501

5 December 1983

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engine anti-ice and the cruise was continued at flight level 290 for about 30 minutes before climbing to flight level 310, clear of cloud where anti-icing was turned off. Operating with engine anti-ice on increases the fuel consumption by 8 percent. As the aircraft approached the mid-point of the flight the pilot became concerned that he may not have sufficient fuel to continue the flight from Kalgoorlie to the alternate, Perth. He decided to continue the flight towards Kalgoorlie and if the alternate requirement was not lifted when he was at a point along track that was 30 minutes beyond Caiguna, he would return to and land at Caiguna. Shortly afterwards the alternate requirement was lifted on Kalgoorlie. When 185 kilometres east of Kalgoorlie the pilot commenced the descent and at flight level 250 the aircraft entered cloud and the engine anti-ice was again switched on. During the descent the fuel low level warning light illuminated and the left engine surged and flamed out at 10,000 feet. The pilot unsuccessfully attempted to restart the engine. As the aircraft broke clear of cloud at 1000 feet above ground level the right engine also flamed out. The pilot made a distress call and landed the aircraft, gear up, on a fire break. After touchdown the aircraft skidded 400 metres before coming to rest. The examination of the aircraft found that during the landing the left fuel tank had been breached, however no evidence was found of any significant fuel spillage. Approximately five litres of fuel was recovered from each of the left and right fuel tanks. The engine fuel filters and fuel lines provided only a small amount of residual fuel. The inspection of the remainder of the aircraft did not reveal any defects that could have contributed to the accident.

Significant Factors:

1. The flight was inadequately planned; the aircraft had insufficient fuel capacity to complete the flight at the planned levels.
2. The refuelling of the aircraft at Adelaide was rushed and as a result the tanks were not filled.
3. During the flight insufficient attention was given to fuel management.
4. The engines flamed out due to fuel exhaustion.