

**Aviation Safety Investigation Report
199403653**

**Piper Aircraft Corp
Pawnee Brave**

05 December 1994

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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: 199403653 **Occurrence Type:** Accident
Location: 16km NW Wakool
State: NSW **Inv Category:** 3
Date: Monday 05 December 1994
Time: 0750 hours **Time Zone** ESuT
Highest Injury Level: Fatal
Injuries:

	Fatal	Serious	Minor	None	Total
Crew	1	0	0	0	1
Ground	0	0	0	0	0
Passenger	0	0	0	0	0
Total	1	0	0	0	1

Aircraft Manufacturer: Piper Aircraft Corp
Aircraft Model: PA-36-300
Aircraft Registration: VH-BUM **Serial Number:** 36-7660004
Type of Operation: Commercial Aerial Agriculture - Other
Damage to Aircraft: Destroyed
Departure Point: Wakool NSW
Departure Time: 0730 ESuT
Destination: Wakool NSW

Crew Details:

Role	Class of Licence	Hours on	
		Type	Hours Total
Pilot-In-Command	Commercial	4.5	293

Approved for Release: Wednesday, January 17, 1996

The pilot was scheduled to spray 50 acres of rice with Londax. The paddock was level and open with no significant obstructions.

The aircraft departed Wakool with a fuel quantity of 200 L (144 kg) of AVGAS and approximately 510 kg of a mixture of Londax and water in the spray hopper.

About five minutes before arriving overhead the treatment area, the pilot established radio contact with the farmer, who was to act as the swath marker. After completing the first spray run in a northerly direction, a second run was completed in a southerly direction. During this run the marker observed that the spray equipment was operating. The aircraft departed the area, heading approximately towards Wakool, however, the pilot did not advise the marker of any reason for departing. When unable to re-establish radio contact, the marker arranged for the operator at Wakool to be advised.

The operator's chief pilot commenced an airborne search from Wakool to the paddock where the aircraft had been spraying. Finding nothing, he returned to Wakool and arranged for the police to be advised that the aircraft was missing, before re-commencing the air search. He found the wreckage near the base of trees about 2 km south-east of the spray site, close to a private airstrip. This strip, aligned 080/260 degrees, was about 850 m long and suitable for a Pawnee Brave landing.

The accident site was in trees about 100 m east and about 50 m south of the unmarked 260 degree strip threshold.

At the time of the accident, the temperature was about 20 degrees celsius. The weather was fine with a north-north-easterly wind of 5 to 10 kts. There were no significant gusts, no significant cloud and visibility was excellent.

The aircraft was within its approved centre of gravity and gross weight limits at the time of the accident and the fuel on board was adequate for the flight.

The pilot was appropriately endorsed on the Pawnee Brave, however, he was relatively inexperienced in agricultural operations. His Grade 2 Agricultural Rating was issued on 5 July 1994 and he completed 10 hours under direct supervision on 28 October 1994, and then a further 8 hours unsupervised prior to accident.

There were no known witnesses to the accident. Examination of the impact marks on the trees, fence and the ground indicated that the aircraft had struck the trees while tracking 230 degrees, displaced to the south of the extended strip centreline, with an angle of bank of about 110 degrees to the right and an attitude of 30 degrees nose down. The short distance of about 20 m from the initial impact point to the final resting position of the wreckage was indicative of a relatively slow horizontal velocity. Damage to the propeller was consistent with the engine producing power at impact. Flaps were ascertained to have been at 15 degrees which was the recommended landing setting for a heavily loaded Pawnee Brave. There was no fire.

The wreckage was examined by engineers at the accident site and the engine and propeller assemblies were later subjected to more detailed inspection. No pre-existing faults were found with the aircraft which may have contributed to the accident.

The aircraft was not equipped with a survival beacon.

It is possible that the pilot was intending to land into the west on the airstrip near which he crashed. The approach path for a landing to the west was over open, flat, dry pasture clear of obstacles. However, on the southern side of the approach path a treeline converged towards the airfield's southern boundary.

Given the impact position in relation to the airstrip, it is possible that the pilot conducted a low level right turn onto final for a downwind landing into the west and that the aircraft stalled at a height from which recovery was not possible before ground impact.

Significant Factors

The following factor was considered relevant to the development of the accident:

1. The pilot probably underestimated the effect of the tailwind component during the turn onto final.