Australian Government
Australian Transport Safety Bureau

ATSB TRANSPORT SAFETY INVESTIGATION REPORT
Aviation Occurrence Report – 200607478
Preliminary

Collision with terrain – Collymongle, NSW
09 December 2006
VH-CJZ
Air Tractor AT-802A

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Area map courtesy of Twynam Agricultural Group.

Abstract

The aircraft was reported to have impacted the ground during a flight to replenish the hopper for further spraying. The pilot was fatally injured. The investigation is continuing.

THE AUSTRALIAN TRANSPORT SAFETY BUREAU

The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal Bureau within the Australian Government Department of Transport and Regional Services. ATSB investigations are independent of regulatory, operator or other external bodies.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the Transport Safety Investigation Act 2003 and Regulations and, where applicable, relevant international agreements.

Purpose of safety investigations

The object of a safety investigation is to enhance safety. To reduce safety-related risk, ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not the object of an investigation to determine blame or liability. However, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

Developing safety action

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. The ATSB prefers to encourage the relevant organisation(s) to proactively initiate safety action rather than release formal recommendations. However, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation, a recommendation may be issued either during or at the end of an investigation.

The ATSB has decided that when safety recommendations are issued, they will focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on the method of corrective action. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations. It is a matter for the body to which an ATSB recommendation is directed (for example the relevant regulator in consultation with industry) to assess the costs and benefits of any particular means of addressing a safety issue.

About ATSB investigation reports: How investigation reports are organised and definitions of terms used in ATSB reports, such as safety factor, contributing safety factor and safety issue, are provided on the ATSB web site www.atsb.gov.au.

FACTUAL INFORMATION

On 9 December 2006, at approximately 2140 Eastern Daylight-saving Time[1], an Air Tractor AT-802A aircraft, registered VH-CJZ, was returning to the Collymongle airstrip after completing a night spray run of a cotton field when it impacted the ground 1.4 km south-west of the strip. The aircraft was destroyed by impact forces and an intense post-impact fire.

In the evening, the pilot of the aircraft flew from the home base of Wee Waa to Collymongle, where he was to spray cotton fields at night in conjunction with a second company aircraft. The flight duration was approximately 20 minutes from Wee Waa. After landing, the pilot conferred with the other pilot while the aircraft was being loaded with a chemical fertiliser.

When the aircraft was loaded, the pilot took off and conducted aerial spraying operations for approximately 30 minutes before depleting the load of fertilizer. He returned to Collymongle, where the aircraft was reloaded with fertilizer. The aircraft was on the ground for a short duration. The second load also took about 30 minutes to deplete. During that flight, the pilot discussed the weather conditions over the radio with ground staff that was assisting with the operation. The wind speed had reduced to less than the optimal conditions for spraying. A wind speed up to 15 kts was required for effective spraying and the pilot stated that he would return to the airfield and assess the weather conditions prior to another load.

Witnesses on the ground saw the aircraft overfly the airstrip heading in a south-westerly direction (figure 1). The pilot of the other aircraft was at an altitude of approximately 200 ft above ground level and about 10 km south-east of the accident aircraft (figure 1) when he saw a bright light in a steep dive towards the ground, followed by a fireball. The pilot initially thought he may have seen a shooting star. He reported that he then realised that it was the other aircraft and then he flew to, and over the accident site to see if he could assist. On overflying the accident site he saw the crashed aircraft was on fire. He returned to Collymongle airstrip to assist ground staff.

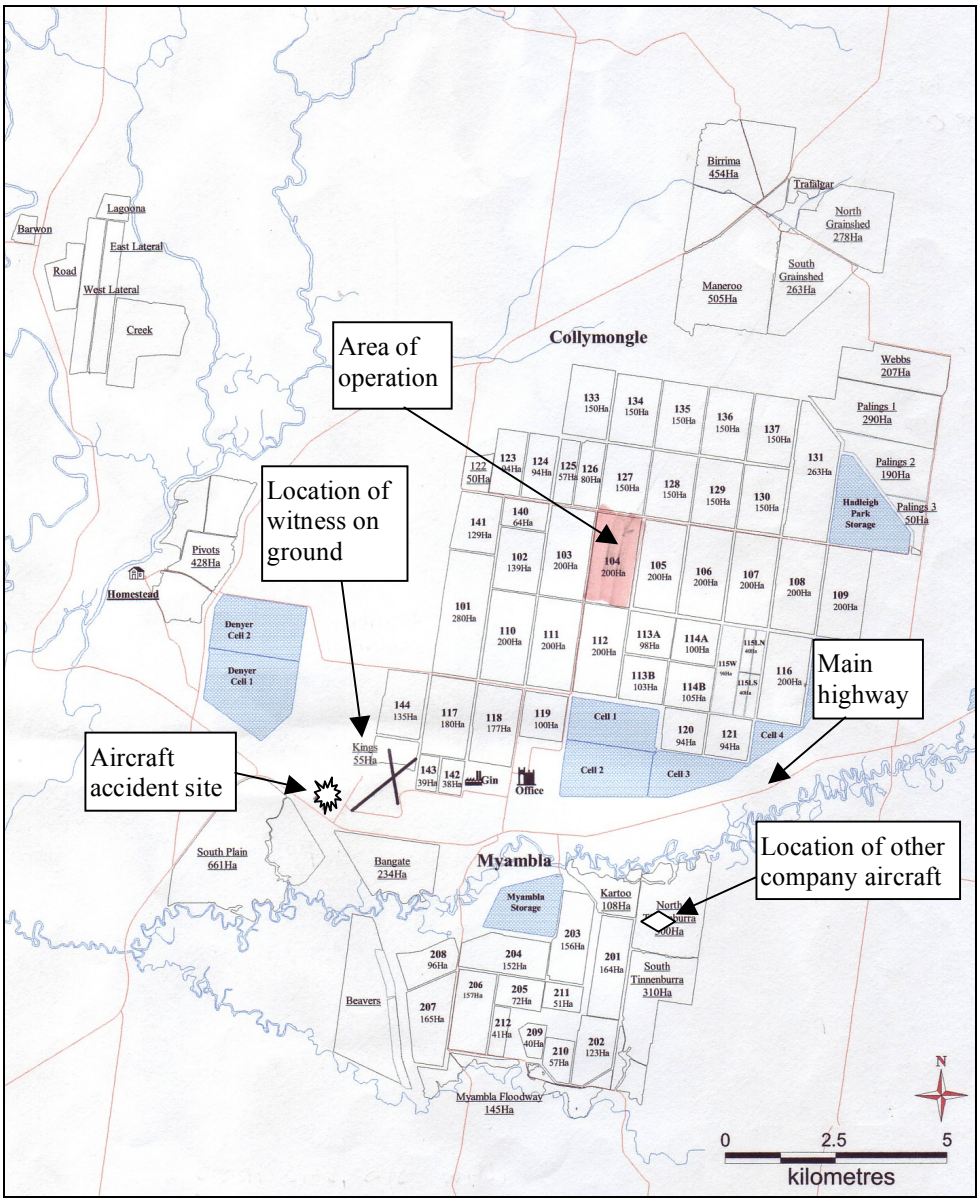
During the spray operations, both pilots were able to communicate with ground staff utilising radios fitted to their respective aircraft. The pilot of the other company aircraft was monitoring the radio conversations and reported that there were no problems reported to the ground staff by the accident pilot during the night.

A witness on the ground, that was approximately 1 km north-east of the accident site, reported that the aircraft ‘descended with a high rate of decent in a flattish attitude’. That witness also reported that the aircraft’s landing light was illuminated and that a truck was travelling along the highway, adjacent to the aircraft flight path, with a ‘lot of headlights on’.

The on-site inspection of the wreckage by the Australian Transport Safety Bureau investigation team did not reveal any mechanical faults with the aircraft.

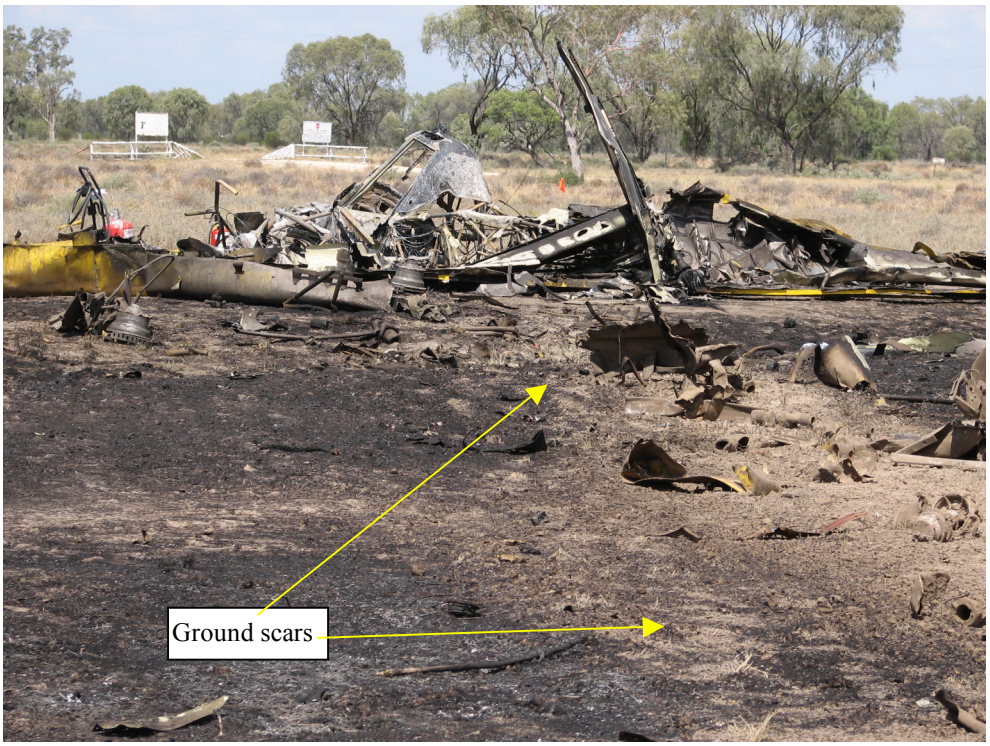
1 The 24-hour clock is used in this report to describe the local time of day, Eastern Daylight – saving Time is UTC +11 hours.

Figure1: Accident site and surrounding area



The wreckage was contained in a small area that showed that the aircraft impacted the ground with a significant nose-down attitude. A ground scar indicated that the aircraft impacted with the left wing down and remained in that attitude while sliding for approximately 45 m (figure 2). The aircraft's flaps were estimated to be at approximately the 10 degrees down position. There was no evidence of a wire strike or of any foreign object damage. Damage to the propeller blades indicated that engine power was being transmitted through the propeller at impact.

Figure 2: Aircraft wreckage



Visibility was reported as 'poor' at the time of the accident due to smoke from a significant bushfire in the area with 7 OKTAS[2] of cloud. The wind was calm and there was no moon at the time of the accident.

The investigation is continuing and will include:

- a review of aircraft maintenance and maintenance records
- a review of pilot training and experience
- a review of the pilot's medical history
- a review of the flying conditions at the time of the accident
- further interviews with witnesses
- examination of components retained.

2 Cloud amounts are reported in oktas. An okta is a unit of sky area equal to one-eighth of total sky visible to the celestial horizon. Few = 1 to 2 oktas, scattered = 3 to 4 oktas, broken = 5 to 7 oktas and overcast = 8 oktas.