Australian Government
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ATSB TRANSPORT SAFETY INVESTIGATION REPORT
Aviation Occurrence Report – 200604810
Final

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28 km west of Sydney, NSW
19 August 2006
VH-JFV
Tecnam Costruzioni Aeronautiche P2002

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Violation of controlled airspace – 28 km west of Sydney, NSW – 19 August 2006 - VH-JFV Tecnam Costruzioni Aeronautiche P2002

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Abstract

On 19 August 2006, the pilot of a Tecnam Costruzioni Aeronautiche P2002 aircraft, registered VH-JFV, was tracking from Bankstown Airport to a flying training area, west of the airport. The flight was being conducted under the visual flight rules (VFR) and the pilot intended to remain in non-controlled airspace (OCTA) for the duration of the flight. The upper limit of OCTA on the intended track was 2,500 ft until 37 km west of Sydney Airport. At 1137, the aircraft was observed on air traffic control radar to be above 3,000 ft and climbing, inside controlled airspace (CTA). That placed the Tecnam in potential conflict with a Fairchild Industries Inc SA226-T Merlin aircraft, registered VH-SSM, which had departed from Bankstown for Wollongong. The Merlin was being operated on an instrument flight rules (IFR) flight.

At 1138, the Sydney Departures South controller received a short term conflict alert on the air situation display (ASD). At the time of the alert the aircraft were separated by 900 ft vertically and 3,150 m (1.7 NM) laterally. The controller issued heading instructions to the pilot of the Merlin to avoid the Tecnam. A radar controller established radio communications with the pilot of the Tecnam and instructed the pilot to leave CTA. The pilot complied with the instruction by descending the aircraft and it left CTA at a position about 35 km west of Sydney Airport.

The pilot of the Tecnam had misidentified the aircraft's position in relation to the CTA boundary and consequently inadvertently entered CTA without a clearance. The pilot subsequently undertook additional training to ensure that he could visually identify the CTA boundaries in and around the Bankstown area.

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. Accordingly, the ATSB also conducts investigations and studies of the transport system to identify underlying factors and trends that have the potential to adversely affect safety.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and, where applicable, relevant international agreements. The object of a safety investigation is to determine the circumstances in order to prevent other similar events. The results of these determinations form the basis for safety action, including recommendations where necessary. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations.

It is not the object of an investigation to determine blame or liability. However, it should be recognised that an investigation report must include factual material of sufficient weight to support the analysis and findings. That material will at times contain information reflecting on the performance of individuals and organisations, and how their actions may have contributed to the outcomes of the matter under investigation. 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.

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. While the Bureau issues recommendations to regulatory authorities, industry, or other agencies in order to address safety issues, its preference is for organisations to make safety enhancements during the course of an investigation. The Bureau prefers to report positive safety action in its final reports rather than making formal recommendations. Recommendations may be issued in conjunction with ATSB reports or independently. A safety issue may lead to a number of similar recommendations, each issued to a different agency.

The ATSB does not have the resources to carry out a full cost-benefit analysis of each safety recommendation. The cost of a recommendation must be balanced against its benefits to safety, and transport safety involves the whole community. Such analysis is a matter for the body to which the recommendation is addressed (for example, the relevant regulatory authority in aviation, marine or rail in consultation with the industry).

FACTUAL INFORMATION

On 19 August 2006, the pilot of a Tecnam Costruzioni Aeronautiche P2002 aircraft, registered VH-JFV, was tracking from Bankstown Airport to a flying training area, west of the airport. The flight was being conducted under the visual flight rules (VFR) and the pilot intended to remain in non-controlled airspace (OCTA) for the duration of the flight. The upper limit of OCTA on the intended track was 2,500 ft[1] until 37 km west of Sydney Airport. At 1137[2], the aircraft was observed on air traffic control radar to be above 3,000 ft and climbing, inside controlled airspace (CTA). That placed the Tecnam in potential conflict with a Fairchild Industries Inc SA226-T Merlin aircraft, registered VH-SSM, which had departed from Bankstown for Wollongong on a standard instrument departure. The Merlin was being operated on an instrument flight rules (IFR) flight.

At 1138, the Sydney Departures South controller received a short term conflict alert on the air situation display (ASD)[3]. At the time of the alert the aircraft were separated by 900 ft vertically and 3,150 m (1.7 NM) laterally. The controller issued heading instructions to the pilot of Merlin to avoid the Tecnam. A radar controller established radio communications with the pilot of the Tecnam and instructed the pilot to leave CTA. The pilot complied with the instruction by descending the aircraft and it left CTA at a position about 35 km west of Sydney Airport. At 1139, after a separation standard had been established, the departures south controller instructed the pilot of the Merlin to resume tracking to Wollongong. Meteorological conditions were reported to be CAVOK[4].

The pilot of the Tecnam held a private pilot's licence and had a total flight experience of about 220 hours. The pilot reported later that he selected and was operating the aircraft's transponder on the VFR code of 1200. He had planned to climb to 3,500 or 4,000 ft once clear of the CTA step. However he thinks that he initiated the climb too early and was also surprised by the aircraft performance. He saw an aircraft pass in front of the Tecnam, from right to left and above him. Shortly after reaching about 3,500 ft, he heard two radio broadcasts, directed to an unidentified aircraft west of Hoxton Park, from the radar controller. He responded to the second call and was instructed to descend to vacate controlled airspace, which he did immediately.

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1 All altitudes are expressed as a height above mean sea level (AMSL).

2 The 24 hour clock was used in this report to describe the local time of day, Eastern Standard Time (EST), as particular events occurred. Eastern Standard Time was Coordinated Universal Time (UTC) + 10 hours.

3 Air Situation Display: An electronic display of Radar, Automatic Dependent Surveillance and Flight Data derived information depicting the extrapolated and interpolated position and movements of aircraft.

4 CAVOK is defined as:
Visibility of 10 km or more
No cloud below 5,000 ft or below the highest minimum sector altitude whichever is greater
No cumulonimbus clouds
No precipitation, thunderstorm, shallow fog, low drifting snow or dust devils.

When navigating under the VFR, a pilot is required to navigate visually, making use of terrain and other landmarks. The pilot of the Tecman reported that he had a Sydney area visual terminal chart in the aircraft at the time.

The pilot of the Merlin had been issued a departure clearance by air traffic control (ATC) to enter CTA on a heading of 290 degrees magnetic on climb to 3,000 ft via the Bankstown One Departure (Radar). At the time a take-off clearance was issued to the pilot of the Merlin, the Tecnam had left the Bankstown control zone (CTR) and was OCTA. The Bankstown aerodrome controller did not, and was not required to, provide the pilot of the Merlin with traffic information on the Tecnam. The Bankstown One Departure (Radar) chart warned pilots that it was their responsibility to maintain separation from other aircraft when operating within the Bankstown CTR and when OCTA. Within CTA, ATC were required to provide a traffic information and separation service between aircraft operating under the IFR and aircraft operating under the VFR.

The pilot of the Tecnam had misidentified the aircraft's position in relation to the CTA boundary and consequently inadvertently entered CTA without a clearance. The safe resolution of the situation was assisted by the pilot's use of the Tecnam's transponder, his monitoring of the relevant radio frequency and the STCA alert to ATC.

The pilot of the Tecnam subsequently undertook additional training to ensure that he could visually identify the CTA boundaries in and around the Bankstown area.