

**Aviation Safety Investigation Report
199403456**

**Cessna Aircraft Company
C150
Piper Aircraft Corp
Seneca III**

21 November 1994

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Occurrence Number: 199403456 **Occurrence Type:** Incident
Location: Canberra
State: ACT **Inv Category:** 4
Date: Monday 21 November 1994
Time: 1157 hours **Time Zone** ESuT
Highest Injury Level: None

Aircraft Manufacturer: Piper Aircraft Corp
Aircraft Model: PA-34-220T
Aircraft Registration: VH-YSB **Serial Number:** 3448010
Type of Operation: Instructional Unknown
Damage to Aircraft: Nil
Departure Point: Tamworth NSW
Departure Time: 0943 ESuT
Destination: Canberra ACT

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 150M
Aircraft Registration: VH-ILL **Serial Number:** 15079384
Type of Operation: Instructional Solo
Damage to Aircraft: Nil
Departure Point: Canberra ACT
Departure Time: 1059 ESuT
Destination: Canberra ACT

Approved for Release: Friday, September 6, 1996

The crew of VH-YSB had flight planned for an examination flight test to be conducted in accordance with Japanese Civil Air Board procedures which required a practice instrument landing system (ILS) approach to a minimum of 200 ft above aerodrome elevation. They had briefed for a left turn from the runway 35 minima at Canberra.

Due to equipment limitations at Canberra, air traffic control (ATC) had instituted a system of slot times for any pilot requesting a practice ILS. The pilot of VH-YSB had obtained approval for such a practice ILS and had also advised ATC that he would be carrying out a Category One ILS. As ATC had no special instructions relating to the words 'Category One' in the notification of a Category One ILS at Canberra, no further action was taken by them in relation to that part of the flight plan advice. Their expectation was for VH-YSB to carry out a standard ILS to the normal published decision height of 330 ft above the aerodrome elevation. As far as ATC were concerned, this was the only minimum for this approach and the instructions issued to aircraft were based on the use of this minimum.

The Canberra runway 35 ILS is not approved for Category One operations. The Category One ILS is designed for landings in extremely poor weather conditions and requires additional ground facilities which are not yet provided in Australia.



The crew of VH-YSB were cleared for final by Canberra Approach and were instructed to contact the tower for further instructions, which they did.

VH-ILL had completed a solo training exercise to the north of Canberra and was being processed by the aerodrome controller (ADC) for a right circuit to runway 30.

The ADC was under training and being supervised by an appropriately rated training officer. The pilot of VH-YSB requested a left break and left circuit from the ILS. The ADC decided that because of the traffic situation, such a procedure was not appropriate and issued instructions for VH-YSB to make a right break at the minima and then conduct a left circuit for a landing on runway 30. There was some confusion between ATC and the crew of VH-YSB at this point but a correct readback of the instructions was obtained.

The ADC had been assessing the situation in relation to a landing sequence between VH-YSB and VH-ILL. He decided that VH-ILL would be number one and issued instructions to achieve this sequence. Consequently he re-issued the break instruction to VH-YSB but in so doing included the words 'at the minima or when ready'. This was misinterpreted by the pilot as an additional approval to continue to a minimum of 200 ft as required by the company's examination procedures.

The ADC decided to add a further requirement for VH-YSB to remain south of the field at all times in the break as this would add an additional safety buffer between the two aircraft. Although this instruction was issued, no readback was obtained from the pilot and the crew do not believe they received such an instruction. Examination of the automatic voice recording indicates that the pilot and ADC were probably transmitting at the same time and did not receive each other's message.

VH-ILL had continued an approach to runway 30 in accordance with ATC instructions. As VH-ILL was on final approach VH-YSB had commenced its go-around from a 200 ft and, realising that he would be unable to make a left circuit for runway 30, the pilot levelled the aircraft wings to overfly runway 30. His intention was to make a right circuit contrary to the instructions from ATC. The pilot believed that this was the safest course of action he could perform from his position and that this action would enable him to comply, as near as possible, with the last ATC instruction.

The ADC training officer realised that VH-YSB was not going to remain clear of the flight path of VH-ILL and immediately gave traffic information on VH-ILL to the crew of VH-YSB. Because VH-ILL was crossing the threshold with a landing clearance and VH-YSB was climbing and seen to be above VH-ILL, the training officer decided that no further action was necessary to prevent a collision and re-cleared VH-YSB for a right base to runway 30.

The aircraft passed within 150-300 ft of each other.

The training manual in use by the flying school states that such flight tests will descend to 200 ft before commencing a break. However, ATC instructions only refer to the published minima, in this case 330 ft.

The go-around instruction given by ATC was designed to be commenced by 330 ft and would provide sufficient room for a safe left circuit to runway 30. Both ATC and the crew of VH-YSB agree that the position of the aircraft at the commencement of the break did not permit a safe execution of this manoeuvre.

The phrase used by the ADC, 'at the minima or when ready', was designed to allow a pilot to commence the break earlier than the minima if an easier transition to downwind leg was required. However, in this occurrence it only served to reinforce the pilot's belief that he could continue to 200 ft.

Findings

1. The flying training school's advice to ATC of a Category One ILS approach had no meaning to the controllers.
2. There were no ATC instructions referring to runway 35 ILS approach minima below 330 ft.
3. The Canberra runway 35 ILS approach is not approved for Category One operations.
4. The crew of VH-YSB continued below the published minima for the approach being used.
5. The company training manuals used by the crew of VH-YSB specify a Decision Height of 200 ft for this particular examination.
6. The company training manuals used by the crew of VH-YSB had been accepted by the Civil Aviation Authority.
7. The go-around instructions issued by ATC were not able to be safely complied with from 200 ft.
8. The phraseologies used by ATC in issuing overshoot instructions were confusing to the crew of VH-YSB.
9. The ATC requirement for VH-YSB to remain south of the airfield in the right break was not received by the crew of VH-YSB.
10. The ADC was unable to provide adequate visual separation.
11. A breakdown in separation standards occurred.

Significant factor

The implications of the notification of a CAT 1 ILS by the flying training school, had not been disseminated to ATC.

Safety Action

As a result of the investigation:

1. ATS management at Canberra reviewed and amended the phraseologies in use at Canberra for overshoot instructions in similar circumstances.



2. The flying training school has reviewed and amended its notification requirements for ILS training flights.

