

**Aviation Safety Investigation Report
199702304**

**Piper Aircraft Corp
Warrior
American Aircraft Corp
Tiger**

16 July 1997

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

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.

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number:	199702304	Occurrence Type:	Incident
Location:	Moorabbin, Aerodrome		
State:	VIC	Inv Category:	4
Date:	Wednesday 16 July 1997		
Time:	1016 hours	Time Zone	EST
Highest Injury Level:	None		

Aircraft Manufacturer:	Piper Aircraft Corp		
Aircraft Model:	PA-28-161		
Aircraft Registration:	VH-AFH	Serial Number:	28-7916267
Type of Operation:	Instructional Dual		
Damage to Aircraft:	Nil		
Departure Point:	Moorabbin Vic		
Departure Time:			
Destination:	Moorabbin Vic		

Aircraft Manufacturer:	American Aircraft Corp		
Aircraft Model:	AA-5B		
Aircraft Registration:	VH-IFN	Serial Number:	AA5B-0597
Type of Operation:	Non-commercial Pleasure/Travel		
Damage to Aircraft:	Nil		
Departure Point:	Canberra ACT		
Departure Time:			
Destination:	Moorabbin Vic.		

Approved for Release: Wednesday, December 10, 1997

There were four aircraft operating in the circuit for runway 31R when the pilot of an inbound Grumman AA5 aircraft, VH-IFN, contacted Moorabbin tower at the ACADAMY reporting point. The first aircraft in the sequence was Cessna 172 VH-APF, followed by two similarly coloured Piper PA28 Cherokee aircraft VH-HQK and VH-AFH, and a Cessna 152, VH-NAK.

The controller decided to slot IFN behind the second Cherokee, AFH.

The controller instructed IFN to join base and report at 3 miles. The pilot of IFN acknowledged the instruction. Shortly afterwards the second Cherokee, AFH, called "downwind touch and go" and was instructed to "follow the Cessna (APF) late downwind"

The pilot of IFN reported at 3 miles and was advised that he was number 3 for landing, and to follow the Cherokee on mid downwind. The pilot of IFN advised that he had "traffic sighted and I'll slow down to follow". IFN has a circuit speed some 20 knots higher than the PA28 that he was following. The weather was hazy and visibility was approximately 3NM, but visibility was reported to be slightly less in the sector from ACADEMY to runway 31R.

Shortly after IFN had made the 3 miles call, HQK, the first Cherokee, called "downwind".

The controller now realised that the pilots of the two PA28's had reported their positions in such a way that the controller thought they were in the reverse order to that in which they actually were. This took a little time to identify and rectify but did not change the order of the sequence in relation to the pilot of IFN, who was still following two PA28s.

When the controller gave the pilot of IFN his landing sequence number, he referred to him being number 3 to land when there was actually 3 aircraft between him and the runway threshold. There was also the C152, NAK as number five in the sequence.

As the sequence progressed, the first of the five aircraft involved, APF, commenced a touch and go. The pilot temporarily lost control of the aircraft and departed the sealed runway onto the grass strip. The controller concentrated on this event in order to closely monitor proceedings. The pilot of APF finally regained control of the aircraft and successfully became airborne. The controller had been unsure if the pilot of APF was going to avoid an accident and had sent round HQK, the first of the PA28 aircraft. He then needed to closely monitor the flight paths of APF and HQK to ensure no conflict occurred. He instructed HQK to turn early to avoid APF and to rejoin the sequence behind the last aircraft, the C152, NAK.

While the controller's attention was occupied with the runway separation problems, IFN overtook AFH, reportedly passing about 2m directly over the top of AFH. The pilot of AFH took avoiding action and advised the controller of the near miss. The controller observed the closeness of the aircraft and sent IFN around. The pilot of IFN reported that he did not at any stage see AFH.

Analysis

The pilot of IFN did not sight AFH at any time, most probably because AFH was below and ahead of him, and because the pilot of IFN was only expecting to see two aircraft ahead of him. He therefore was maintaining clearance from, and following, the first of the two Cherokee's rather than the second.

When the controller gave initial traffic instructions to the pilot of IFN, he decided to only include the two PA28s in the sequence ahead of IFN. This decision may have confused the pilot who, after initially turning to follow the second PA28, may have seen the C172 and the first PA28 as the two aircraft ahead when subsequently checking the preceding traffic. The fact that the two PA28s were of similar colour schemes would have contributed to any misidentification by the pilot and the reduced visibility further restricted his ability to observe all aircraft in the sequence.

When the C172 was cleared to commence a touch and go, the first PA28 was on base leg and had passed mid-base position. The second PA28 was on downwind about to turn base. Therefore, although being told that he was number three in the sequence, the pilot of IFN had three aircraft between late downwind and the threshold of runway 31R.

As a result of the confusing position reports given by the pilots of both PA28s, the controller's attention had been concentrated on establishing the actual sequence of these two aircraft until the near accident occurred on the runway. This action did not affect the sequence from the point of view of the pilot of IFN, or from the air traffic controller's traffic plan, other than the order of the two PA28s.

Because of the near accident involving the touch and go landing of the C172, the controller's attention was focussed on his primary functions of runway separation and safety when the track of IFN started to conflict with that of the second PA28, AFH.

Significant factors.

1. The controller indicated to the pilot of IFN that there were two aircraft ahead of him in the sequence, when there were, in fact, three.
2. The visibility was such that spotting and recognising aircraft was difficult.
3. The controller's attention was occupied with his primary function of runway separation at the time that the tracks of IFN and AFH came into conflict.

