



COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF TRANSPORT

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

Reference No

SI/781/1001

Publication of this report is authorised by the Secretary under the provisions of Air Navigation Regulations 283 (1)

1. LOCATION OF OCCURRENCE

4 km north of Cairns, Queensland	Height a.m.s.l. Sea Level	Date 11.1.78	Time (Local) 1513 hours	Zone EST
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2. THE AIRCRAFT

Make and Model Piper PA23-250 "Aztec"	Registration VH-PYS	Certificate of Airworthiness Valid from 18.1.74
Certificate of Registration issued to	Operator	Degree of damage to aircraft Destroyed
		Other property damaged HMAS Bombard
Defects discovered Nil		

3. THE FLIGHT

Last or intended departure point Cairns	Time of departure 1357 hours	Next point of intended landing Cairns	Purpose of flight Naval Gunnery Exercise	Class of operation Aerial Work
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THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
	Pilot	26	Senior Commercial	387	1347	Fatal

5. OTHER PERSONS (All passengers and persons injured on ground)

Name	Status	Degree of injury	Name	Status	Degree of injury
	Winch Operator	Fatal			

6. RELEVANT EVENTS

Omni Aviation had a Contract to provide a drogue target towing aircraft for the Royal Australian Navy (RAN). The operator had Department of Transport approval to conduct operations below 500 ft above ground level, for this purpose.

The RAN had provided instructions for the proposed exercises, including reference to a "Freedom of Range" activity in which the pilot had complete freedom to manoeuvre in height and speed. There was no minimum range between guns and aircraft specified for this activity.

The operator had also provided operating instructions for its flight crew personnel. These instructions briefly described a "Freedom of Expression" activity, which was similar in nature to the "Freedom of Range" mentioned in the RAN instructions. The information did not specify either a minimum altitude or distance from the target.

There is evidence that during the course of various exercises with naval ships in 1977 some mock attacks carried out by the operator's flight crews had been pressed to extremely close range, overflying the target with minimal clearance.

The pilot had participated in numerous naval gunnery exercises during 1977; accruing some 120 hours experience in this activity, of which 9 hours had been spent in "Freedom of Expression". He flew VH-PYS to Cairns on the afternoon of 9.1.78 and on the following day both he and the winch operator received a briefing from the RAN about the proposed exercise. This included a visit to HMAS Bombard, one of the ships engaging in the exercise, to familiarise themselves with the vessel's gunnery installations.

Weather conditions in the area at the time of the accident were fine and warm with a light south easterly wind. The sea state was smooth with a long, low swell. Three RAN patrol ships were engaged in the exercise. At 1405 hours, VH-PYS commenced the first segment of the exercise, consisting of live firing at a towed drogue. This activity was completed without incident at 1454 hours.

6. RELEVANT EVENTS (Cont'd)

At 1501 hours VH-PYS commenced a pre-arranged series of random attack manoeuvres. The first attack consisted of a low pass over the formation from astern, climbing to pass close over each ship in succession. Several more low passes were then made at ships engaged in the exercise. At about 1511 hours the aircraft broke off the attacks and flew away to the west, climbing to an estimated 1000 ft. The three ships took up a triangular formation, some 800 metres equi-distant, on a westerly course. VH-PYS, with the sun at its rear, then commenced a further low level attack, initially heading towards the northern-most ship in the formation. This attack was discontinued at about 600 metres range and the aircraft turned rapidly to the right for a stern attack on HMAS Bombard. The ship commenced a right turn and reduced speed as a counter to the attack. The attack on HMAS Bombard was at very low altitude and continued until the aircraft was very close to the ship. The aircraft was then observed to start to climb, but the right wing struck, firstly, the main mast at the rear of the ship, the top of which rises to 8.5 metres above sea level and, next, the fore mast, the top of which is 10 metres above sea level. At the second impact, the outer one metre of the right wing detached, the aircraft cartwheeled and dived into the sea ahead of the ship, impacting in a flat, inverted attitude. The bulk of the wreckage sank before RAN personnel could effect salvage. The bodies of the two occupants, who had received fatal injuries when the aircraft struck the sea, remained trapped within the main wreckage.

Recovery of the aircraft and occupants was completed on 13.1.78. Examination of the wreckage disclosed no evidence of pre-existing defect and there was no indication that the aircraft had sustained gun fire damage.

7. OPINION AS TO CAUSE

The cause of the accident was that the aircraft was operated in such proximity to RAN ships that there was an insufficient margin of safety for errors of judgement.

Approved for
publication

G. V. Hughes

(G. V. Hughes)
Delegate of the Secretary

Date

31.8.79