

AAIB Bulletin No: 9/95

Ref: EW/G95/07/01

Category: 1.3

**Aircraft Type and Registration:** i) Druine D.31 Turbulent, G-APNZ  
ii) Druine D.31 Turbulent, G-BIVZ

**No & Type of Engines:** i) 1 Ardem 4C02 Mk 5 piston engine  
ii) 1 Ardem 4C02 Mk 4 piston engine

**Year of Manufacture:** i) 1959  
ii) 1992

**Date & Time (UTC):** 2 July 1995 at 1530 hrs

**Location:** Headcorn Airfield, Kent

**Type of Flight:** Formation display practice

**Persons on Board:** i) Crew - 1                      Passengers - None  
ii) Crew - 1                      Passengers - None

**Injuries:** i) Crew - None                      Passengers - N/A  
ii) Crew - None                      Passengers - N/A

**Nature of Damage:** i) Minor damage to underside of fuselage  
ii) Hole (18" by 9") in upper surface of left wing and one propeller tip bent

**Commander's Licence:** i) Commercial Pilot's Licence with Instructor Rating  
ii) Private Pilot's Licence

**Commander's Age:** i) 56 years  
ii) 65 years

**Commander's Flying Experience:** i) 1,140 hours (of which approx 40 were on type)  
Last 90 days - 45 hours  
Last 28 days - 8 hours  
ii) 540 hours (of which 105 were on type)  
Last 90 days - 33 hours  
Last 28 days - 16 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilots and enquiries by the AAIB

The accident aircraft were Numbers 2 and 3 respectively of a three-aircraft formation practising a display overhead Headcorn Airfield; they had taken off from Headcorn at 1515 hrs. The weather was good with a light northeasterly wind, visibility between 8 and 10 km and a scattered cloudbase between 1,500 feet and 2,000 feet agl. All the pilots had flown together before and, prior to this practice, the leader had briefed the formation members on the content of the sortie. Each participant held a current Display Authorisation issued by the CAA in accordance with CAP 403.

At the end of their practice session, the aircraft were in echelon port formation and running in for a left break and a stream landing. G-BIVZ was on the left of the formation and G-APNZ was in the middle. The aircraft were all in a gentle descent and the plan was for the leader to pitch up, pause for 2 seconds and then roll and pull to the left. As the leader pitched up, Number 2 would continue his gentle descent for 2 seconds before pitching up and then pausing for 2 seconds before rolling and pulling to the left. Number 3 would follow the same profile. In this manoeuvre, a following pilot would lose sight of the preceding aircraft for a time as the leading aircraft was above and turning left.

Initially, the break went as planned but at some stage G-APNZ and G-BIVZ collided. The pilot of G-APNZ reported that as he rolled and pulled left he looked and saw his leader; however, halfway through the turn he felt a severe jolt from the rear of his aircraft. He then saw G-BIVZ turning away and assumed that contact had been made. The pilot of G-BIVZ had followed the same procedure for the break but, as he pulled hard to the left, he did not see Number 2 until he was aware of G-APNZ descending from above and behind him in a slight left wing down attitude. After the collision, the pilot of G-BIVZ saw the hole in his left wing surface. Both pilots retained control of their aircraft and made successful landings.

Subsequently, Number 2 considered that the collision had been caused by Number 3 not having visual contact with him. However, Number 3 considered that Number 2 had caused the accident by not pulling and rolling hard enough to the left to match the leader.