

No: 9/88

Ref: EW/C1078

Category: 1c

**Aircraft Type
and Registration:**

Piper PA-38 Tomahawk, G-BMNO
Piper PA-38 Tomahawk, G-BOMO

No & Type of Engines:

1 Lycoming O-235-L2C piston engine (both)

Year of Manufacture:

1981 (both)

Date and Time (UTC):

18 July 1988 at about 0945 hrs

Location:

Near Longdon, Hereford and Worcester

Type of Flight:

Training (both)

Persons on Board:

Crew - G-BMNO - 1 Passengers - G-BMNO - None
 G-BOMO - 1 G-BOMO - None

Injuries:

Crew - G-BMNO - 1 (Fatal) Passengers - G-BMNO - N/A
 G-BOMO - 1 G-BOMO - N/A

Nature of Damage:

G-BMNO - Aircraft destroyed
G-BOMO - Moderate damage to left wing and fuselage

Commander's Licence

Student Pilot (both)

Commander's Age:

17 years (both)

**Commander's Total
Flying Experience:**

G-BMNO - 25 hours (all of which were on type)

G-BOMO - 24 hours (23 of which were on type)

Information Source:

AAIB Field Investigation

The two student pilots were in the final stages of a 30 hour course, under the auspices of the Royal Air Force Flying Scholarship Scheme. At about 0900 hrs the Chief Flying Instructor briefed, and authorised, both students to fly a solo sortie in the local area. G-BOMO took-off from runway 27 at Staverton airport at 0920 hrs and G-BMNO at 0921 hrs.

The pilot of G-BOMO stated that he climbed out on a westerly heading to 2500 feet. As there was cloud ahead, he turned north, towards the Malvern Hills. It was shortly after this that he noticed G-BMNO close behind him, to the left and slightly below. He continued to fly north at 2500 feet and became aware of the other aircraft "criss-crossing" behind him. At one stage it passed from right to left in front, at a distance estimated to be between half and one aircraft's length. The pilot turned his aircraft to right and left to see where it had gone. No contact was made so he decided to carry on with his training by doing some steep turns. After completing about five such turns, the aircraft, which was now at 2000 feet, was flown towards Pershore. The visibility was good and there was no cloud. The pilot stated that he was flying straight and level, while deciding what to do next, when he heard a very loud, metallic bang on his left-hand side. This was accompanied by a severe jolt which knocked his

headphones off and caused the aircraft to bank sharply to the right. He was aware of something large and red passing in front of the left wing, moving outboard and to the rear. The aircraft was recovered to straight and level flight at about 1700 feet and the pilot replaced his headphones and did a full control check. As everything appeared normal and he was not sure what had happened, he elected not to make an emergency call, but to rejoin to Staverton as soon as possible using the standard rejoining procedures. The request for rejoin instructions was made at 0947 hrs and the aircraft landed, without further incident at 0957 hrs. It was not until after he had completed the aircraft shutdown that he realised that it could have been G-BMNO that had hit him. He ran to the clubhouse and told one of the instructors who, having inspected the damage to G-BOMO, immediately got airborne to search for the other aircraft.

Several people in the area saw two aircraft, one of which was flying in a normal manner while the other one was variously described as "dive-bombing", "dog-fighting" or doing "acrobatics" around it. This latter one was seen to have red markings. Whereas G-BOMO was painted blue and white, G-BMNO did have red in its colour scheme. The aircraft were seen to fly off to the north and one appeared to be forming on the right-hand side and slightly below the other. The lower one was rocking its wings. The observer looked away briefly, and when she looked back the lower aircraft had disappeared.

A farmer, who had observed the activities of the two aircraft some minutes previously, was in his kitchen when he heard a loud bang which he described as being like a car crash. He went outside and saw the two aircraft locked together. One detached itself and went down steeply, the main part being split in two. A smaller piece, which had become detached, drifted down behind it. The engine, which had been revving loudly, went quiet shortly before the aircraft hit the ground.

G-BMNO had crashed inverted in a dense copse at an angle of 50° beyond the vertical, with its wings approximately horizontal and on a heading of 145°. The cockpit area, fuselage and wing leading edges were badly damaged and the top of the engine was buried in the clay. The tail section, less the left tailplane, had broken away from the fuselage structure and only remained attached by the control cables which had cut through the bottom of the fuselage to the cabin rear bulkhead. The left tailplane was found in a field some distance from the main crash site.

The fuselage of G-BOMO was buckled around the left-hand entrance step attachment point and the left-hand flap had been struck from underneath. The left main landing gear attachment fairing was broken and various witness marks were found on the left landing gear leg, brake unit and wheel. The left wing had picked up some blue paint on the inboard section of the leading edge, whilst the outboard section showed dents, scratches, and rivet and rubber marks.

No pre-impact faults were found with the flying controls of G-BMNO, nor were any problems reported with the controls of G-BOMO.

All the components of G-BMNO which carried witness marks were taken to Staverton and matched up against G-BOMO. A total of 13 sets of marks were found which matched with marks or components on the other aircraft, and these gave a clear sequence of events during the collision.

G-BMNO had approached G-BOMO from behind with a low closing velocity, coming in on a parallel course, low and to the left. G-BMNO's right tailplane had hit the tail bumper and the entrance step from G-BOMO before the top of the fin and left tailplane hit G-BOMO's right main landing gear. This collision removed G-BMNO's left tailplane, leaving the fin and the remains of the tail section attached only by the flying control cables which cut through the bottom of the fuselage as far as the cabin rear bulkhead. Marks found on G-BOMO's left wing showed a second series of impacts as G-BOMO overtook the now unstable G-BMNO, whose severed tail section and rear fuselage passed over the left wing of G-BOMO.

The pilot was killed instantly when the aircraft hit the ground, and the autopsy revealed no pre-existing medical condition which would have contributed to the accident.