

No: 9/91

Ref: EW/G91/06/20

Category: 1c

Aircraft Type and Registration: 3 Rollason Druine D31 Turbulents
G-APNZ, G-ARZM and G-ASAM

No & Type of Engines: Each aircraft - 1 Ardem 4CO2 piston engine

Year of Manufacture: 1959 - 1962 - 1963

Date & Time (UTC): 23 June 1991 at between 1715 hrs and 1745 hrs

Location: G-ARNZ - Coxheath, near Maidstone, Kent
G-ARZM - Boughton Monchelsea, near Maidstone
G-ASAM - Coxheath, near Maidstone, Kent

Type of Flight: Private

Persons on Board: Crew - 1 in each aircraft

Injuries: Crew - G-APNZ - None
G-ARZM - Serious
G-ASAM - Serious

Nature of Damage: G-APNZ - Minor damage to landing gear
G-ARZM - Damaged beyond economic repair
G-ASAM - Damaged beyond economic repair

Commander's Licence: Each has - Private Pilot's Licence with IMC rating

Commander's Age: G-APNZ - 30 years
G-ARZM - 48 years
G-ASAM - 46 years

Commander's Flying Experience: G-APNZ - 610 hours (of which 20 were on type)
G-ARZM - 760 hours (of which 160 were on type)
G-ASAM - 713 hours (of which 77 were on type)

Information Source: Aircraft Accident Report Forms submitted by the pilots
and subsequent AAIB enquiries.

The aircraft had been at RAF Henlow where, during the day, they carried out three 10 minute flying displays. On the last display, which finished about 1530 hrs, the leader had noted that the cloudbase was 800 feet. The aircraft were refuelled and the pilots self-briefed for the return flight to Headcorn Aerodrome in Kent.

An aftercast, prepared in the Meteorological Office at Bracknell, indicated that, at 1600 hrs on Sunday 23 June 1991, a warm front was lying from Chichester to Devizes. It was associated with an area of low pressure, centred in the Bristol Channel, which was moving north-east at about 30 kt. There was moderate to heavy rain with broken to overcast stratus type cloud, base 800 to 1000 feet. These

rapidly deteriorating conditions were moving across Surrey, Sussex and Kent. The Office had issued the following TAFs at about 1500 hrs UTC:

EGKB(Biggin Hill)	1619 16016/26KT 8000 6ST010 INTER 1619 5000 62RA PROB10 95TS 6ST003
EGMD(Lydd)	1619 16018/30KT 5000 6ST005 INTER 1619 1500 62RA PROB10 95TS 6ST002.

A report from RAF Henlow indicated that a full list of both civil and military terminal forecasts, a local area forecast and a south of England forecast were available to pilots.

Departure from Henlow was at 1545 hrs and the three aircraft flew in loose formation, about 400 yards apart, with NZ in the lead, ZM on the left and AM on the right. The visibility was 7 to 8 km and the cloud base about 700 feet agl; this reduced to 3000 metres and 400 feet agl in showers. They flew from Ware, down the Lee Valley at 500-700 feet agl and then followed the M25 motorway. In the vicinity of Brentford, ZM closed in and, by use of signals, the mutual decision was made to carry on. AM was, at this time, about 200 yards on the right. The aircraft then repositioned to about 400 yards lateral separation and continued south. The river Thames was crossed about 1 nm east of Gravesend; at this point it was noted that the visibility was better than 15 km and the cloud base was well clear of the two 560 foot agl chimneys to the north-east of Gravesend. Although the ridge of higher ground which stretches south-east from Rochester was in cloud, the valley to the west, through which the river Medway passes, was clear. The formation continued down the valley towards Maidstone.

Just west of Maidstone, the visibility deteriorated rapidly and the leader, in NZ, found himself in cloud. The aircraft instrumentation was limited and so he turned onto north and began a slow descent, at 70 kt, from an altitude of 550 feet, in order to regain visual contact. He regained contact at 400 feet, which he estimated to be about 100-200 feet agl, however, the visibility was only about 120 metres and he was uncertain of his position. Seeing no way out of the area, the pilot decided to carry out a precautionary landing. He found a field, the diagonal of which gave a suitable distance into the easterly wind. An overflight, in the landing direction, revealed no significant obstructions. There were some horses sheltering in the north-east corner and the field was lined with houses on the west and north sides. Apart from minor damage caused by snagging a 2 strand wire fence at 15 to 20 kt, the landing was successful and the pilot vacated the aircraft uninjured. The pilot estimated that he had landed at about 1715 hrs.

When the pilot of ZM encountered the adverse weather, his first action was to start a level left turn to clear the formation. Once on a reciprocal heading he entered a slow descent until, at about 100-200 ft

agl, he gained visual contact with the ground. He was uncertain of his position and his forward visibility was almost zero. He realised that he was heading towards the built up area around Maidstone and so decided to land as soon as possible. He saw an area which, although surrounded by high trees, looked suitable. Having flown round the field, just above the tree tops, he carried out an approach and landing. Unfortunately the ground was soft, due to the recent rain, and the aircraft nosed over. The pilot was seriously injured and rendered unconscious by the impact. However, the accident had been observed by a passer-by who informed the emergency services and remained with the pilot until they arrived.

The pilot of AM, when he lost sight of the formation, turned right onto about north; he planned to head towards the M20 motorway and follow it west, along the M26, until he reached the junction with the M25 near Sevenoaks. He recalled that he flew over the field, in which he eventually landed, shortly after he had taken up the northerly heading. When he reached the M25 junction he orbited the area but could find no way out and was aware that the weather was closing in rapidly. He turned eastwards and followed the railway line, hoping to see West Malling airfield. As he approached Maidstone he turned south and saw a field with a helicopter in it. As he got closer, he noticed that NZ was also in the field and that it was the one he had overflown initially. A circuit was flown, at about 25-30 feet agl, and he saw the pilot of NZ standing in the field indicating a recommended landing direction. AM was then positioned downwind; the pilot recalled that, due to the extremely poor visibility he flew at a slightly lower speed than normal. On final approach the aircraft started to sink; the pilot's recollection of the final stage of the landing was limited but he thought that he had applied power and seemed to get no response from the engine; conditions at the time were conducive to carburettor icing. The aircraft continued to sink and struck the ground in a steeply banked, nose down attitude. The aircraft was severely damaged and the pilot, who was seriously injured and unconscious, was assisted from the wreckage by personnel attending the scene of the first accident.

The pilot of NZ, who observed the landing, reported that, at about 1740 hrs, AM overflew the field from west to east. At the eastern edge, he turned left and flew downwind along the northern edge. The approach appeared slow and, at about 30 feet agl, AM banked steeply, the nose dropped and the aircraft struck the ground in a steep nose-down attitude.

The helicopter seen by the pilot of AM was the air ambulance which attended the scene when NZ had landed. All three pilots wore full upper torso restraint, which held on impact. The pilot of AM wore a protective flying helmet.